LBT-V702/V702CD/V702CDG

SERVICE MANUAL

AEP Model
E Model
Australian Model
LBT-V702
UK Model
LBT-V702CD/V702CDG

Photo:
LBT-V702

- LBT-V702/702CD/702CDG are composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR LBT-V702/V702CD/V702CDG

	LBT-V702		LBT-V702CD	LBT-V702CDG
	E, EA, AUS	AEP, WG, IT		
AMPLIFIER	TA-V702			
CASSETTE DECK	TC-V702			
TUNER	ST-V702			
GRAPHIC EQUALIZER	SEQ-V902	—	—	SEQ-V902
CD PLAYER	—	—	PS-V725	
TURNTABLE SYSTEM	—	—	CDP-M48	
SPEAKER SYSTEM	SS-D702AV	SS-A702		

SPECIFICATIONS

Power requirements	AEP, WG, IT model: 220 V AC, 50/60Hz UK model: 240 V AC, 50/60 Hz E, EA, AUS model: 120/220/240 V AC adjustable, 50/60 Hz

Note: WG: West Germany model
IT: Italian model
EA: Saudi Arabia model
AUS: Australian model

PARTS LIST

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

ACCESSORY & PACKING MATERIAL

1-465-407-11	(AEP,WG,IT,UK)..REMOTE COMMANDER(RM-S730)
1-465-439-11	(E,EA,AUS)......REMOTE COMMANDER(RM-S730E)
3-707-584-01	COVER, BATTERY
1-501-369-11	(AEP,IT,UK)...ANTENNA (FM)
1-501-379-11	ANTENNA, LOOP (MW)
1-558-271-11	(UK,E,EA,AUS)...CORD, CONNECTION
1-559-533-11	(UK,E,EA,AUS)...CORD, CONNECTION
1-559-654-11	(E,EA,AUS)...CORD, SPEAKER
1-574-265-11	(UK,E,EA,AUS)...CORD (WITH CONNECTOR) (3-3-3-3P,AU-BUS)
1-575-622-11	CORD (WITH CONNECTOR)(3-15-15P,SYS-CON 2)
1-575-623-11	CORD (WITH CONNECTOR)(3-11-11P,SYS-CON 1)
3-751-569-11	(AEP,UK)........MANUAL, INSTRUCTION
3-751-569-41	(AEP,WG,IT).....MANUAL, INSTRUCTION
3-751-569-51	(E,EA,AUS)......MANUAL, INSTRUCTION
3-751-570-11	(UK,E,EA,AUS)...MANUAL, INSTRUCTION (SEQ)
*4-914-075-01	(E,EA,AUS)...CUSHION (SP)
*4-937-384-01	(AEP).......INDIVIDUAL CARTON (TA/TC)
*4-937-385-01	(AEP).......INDIVIDUAL CARTON (ST/TA/TC)
*4-937-386-01	(V702CD)....INDIVIDUAL CARTON
*4-937-387-01	(V702CDG)...INDIVIDUAL CARTON
*4-937-388-01	(E,EA)......INDIVIDUAL CARTON
*4-937-398-01	(AUS).......INDIVIDUAL CARTON
*3-350-154-01	CUSHION (TC)
*4-934-859-01	CUSHION (TA)
*4-934-860-01	CUSHION (ST)
*4-929-563-01	(UK,E)...CUSHION (SEQ)
*4-913-575-01	(UK)...CUSHION (LEFT)(PS)
*4-913-576-01	(UK)...CUSHION (RIGHT)(PS)
*4-928-277-01	(UK)...INDIVIDUAL CARTON (PS)

STEREO COMPONENT SYSTEM

SONY®

English
90E0570-1
Printed in Japan
© 1990. 5

9-955-888-11

Sony Corporation
Audio Group

Published by Customer Relations And Service Group
http://getMANUAL.com

TA-V702

SERVICE MANUAL

AEP Model
UK Model
E Model

This set is the stereo amplifier section in LBT-V702/V702CD/V702CDG

SPECIFICATIONS

Continuous RMS power output	60 W + 60 W (6 ohms, at 1 kHz, 5% THD) 50 W + 50 W (6 ohms, DIN, 1 kHz)
Music power output	90 W + 90 W (6 ohms, at 1 kHz, 10% THD)

Input	Jack type	Sensitivity	Impedance
PHONO	Phono	2.5 mV	47 kohms
VIDEO1/DAT	Phono	180 mV	47 kohms
VIDEO2	Phono	180 mV	47 kohms
CD	Phono	180 mV	47 kohms
MIC	Phone	0.8 mV	10 kohms

Output	Jack type	Voltage	Impedance
VIDEO1/DAT	Phono	150 mV	2 kohms
SURROUND SPEAKER	Phono	Accepts speakers of 8 to 16 ohms	
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more	

Frequency response	CD: 10 Hz to 50 kHz $^{+0}_{-3}$ dB
Power requirements	UK model: 240 V AC, 50/60 Hz AEP model : 220 V AC, 50/60 Hz E model : 120/220/240V AC adjustable, 50/60Hz.
Power consumption	UK model: 350 W AEP model : 150W E model : 175W
AC outlet	1 unswitched, 100 W max.
Weight	Approx. 6.2 kg (13 lbs 11 oz)
Dimensions	Approx. 355 × 130 × 326 mm (w/h/d, including projections) (14 × $5^{1}/_{8}$ × $12^{7}/_{8}$ inches)

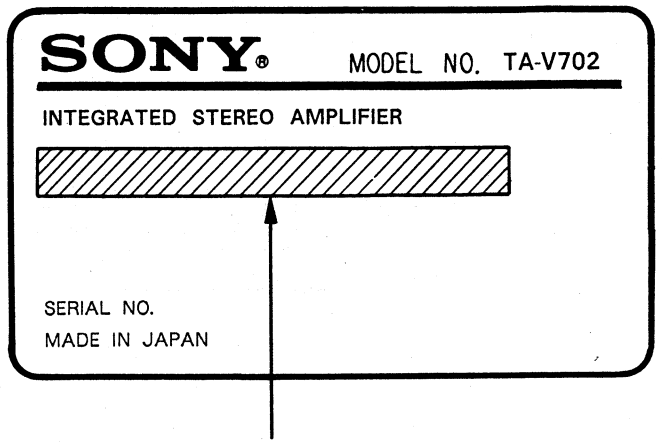
MICROFILM

STEREO AMPLIFIER

SONY®

MODEL IDENTIFICATION

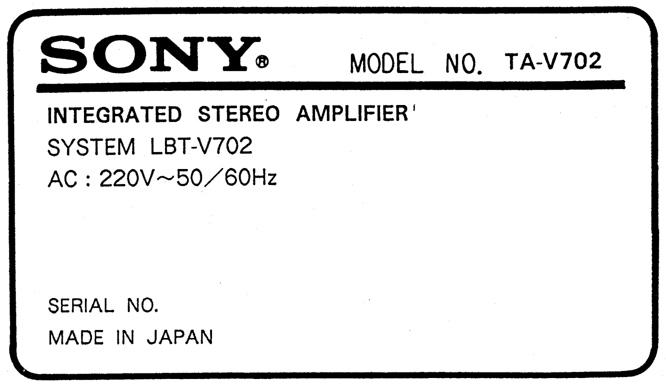
—Specification Label—


SONY® MODEL NO. TA-V702

INTEGRATED STEREO AMPLIFIER

SERIAL NO.
MADE IN JAPAN

West Germany Model :


SONY® MODEL NO. TA-V702

INTEGRATED STEREO AMPLIFIER
SYSTEM LBT-V702
AC : 220V~50/60Hz

SERIAL NO.
MADE IN JAPAN

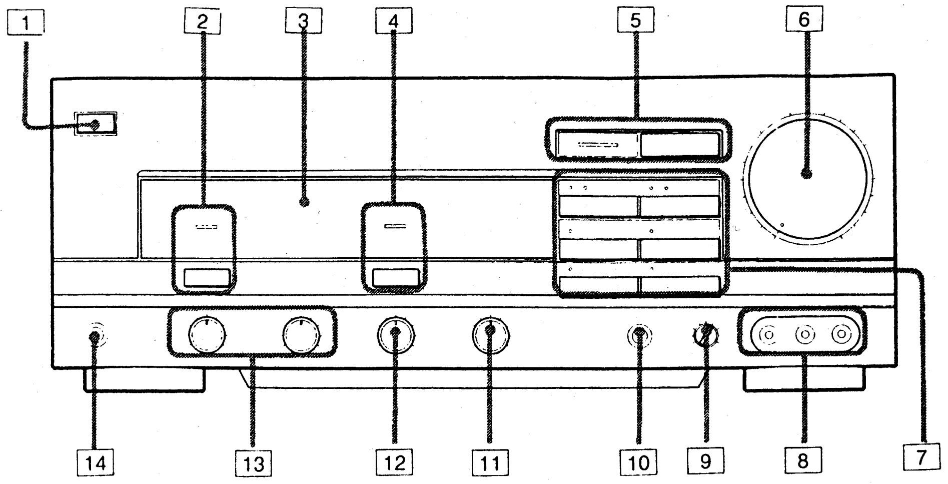
AEP Model : AC : 220V~50/60Hz
Italian Model : AC : 220V~50/60Hz
UK Model : AC : 240V~50/60Hz
E, Saudi Arabia Model : AC : 120V/220V/240V~50/60Hz 175W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

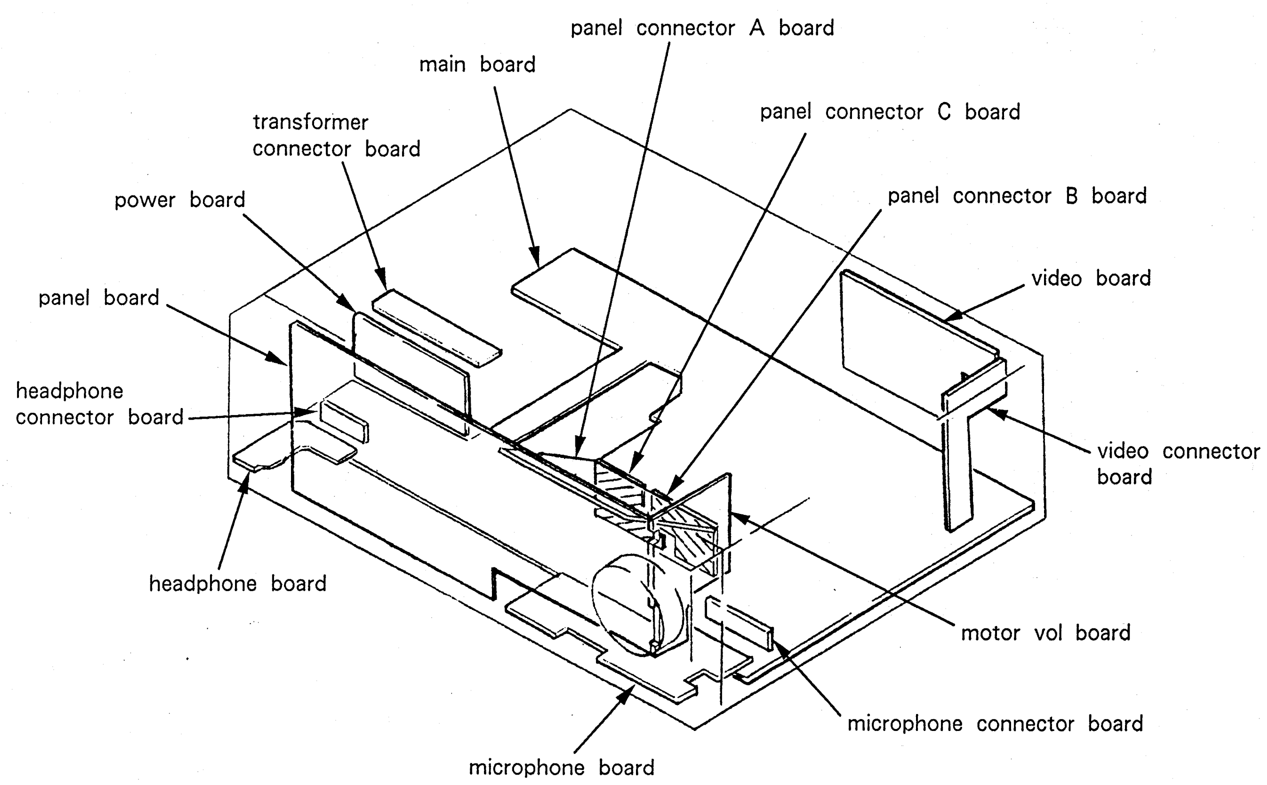
PARTS IDENTIFICATION



1 POWER switch
2 EQ REC (equalizer recording) button and indicator
3 Display window
4 DBFB (dynamic bass feedback) button and indicator (AEP, UK, West Germany and Italian model)
SAT (Super Acoustic Turbo) button and indicator (E, Saudi Arabia model)
5 CD DIRECT button and indicator
6 VOLUME control
7 FUNCTION selectors and indicator
red: audio
green: video
Every time you press the VIDEO 1/DAT and VIDEO 2 buttons, audio and video source is switched.
8 VIDEO 2 INPUT jacks
9 MIC (microphone) LEVEL control
10 MIC (microphone) jack
11 BALANCE control
12 DBFB LEVEL control (AEP, UK, West Germany and Italy model)
SAT LEVEL control (E, Saudi Arabia model)
13 BASS and TREBLE tone controls
14 HEADPHONES jack

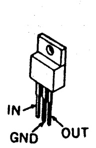
SECTION 2
DIAGRAMS

2-1. PC BOARDS LOCATION

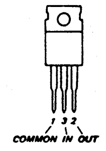

panel connector A board
main board
panel connector C board
transformer connector board
power board
panel connector B board
panel board
video board
headphone connector board
video connector board
headphone board
motor vol board
microphone connector board
microphone board

2-2. SEMICONDUCTOR LEAD LAYOUTS

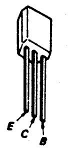
M5F7810



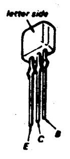
M5F7910


1 3 2
COMMON IN OUT

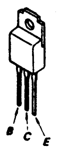
DTA124ES
DTC124ES
2SC2603-EF
2SC3622A-LK



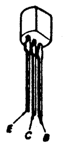
2SA1175-HFE


letter side
E
C
B

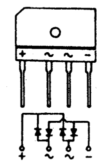
2SB1187-EF



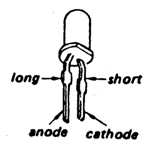
2SC1841-PAFAEA



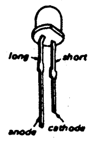
RBV-602-01



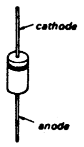
SEL2210S-C


long
short
anode
cathode

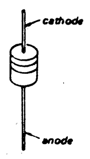
SEL2210W-D
SEL2510C


long
short
anode
cathode

HZS30-2L
UZP-6.8BC
10E2N


cathode
anode

1SS120


cathode
anode

2-3. PRINTED WIRING BOARDS

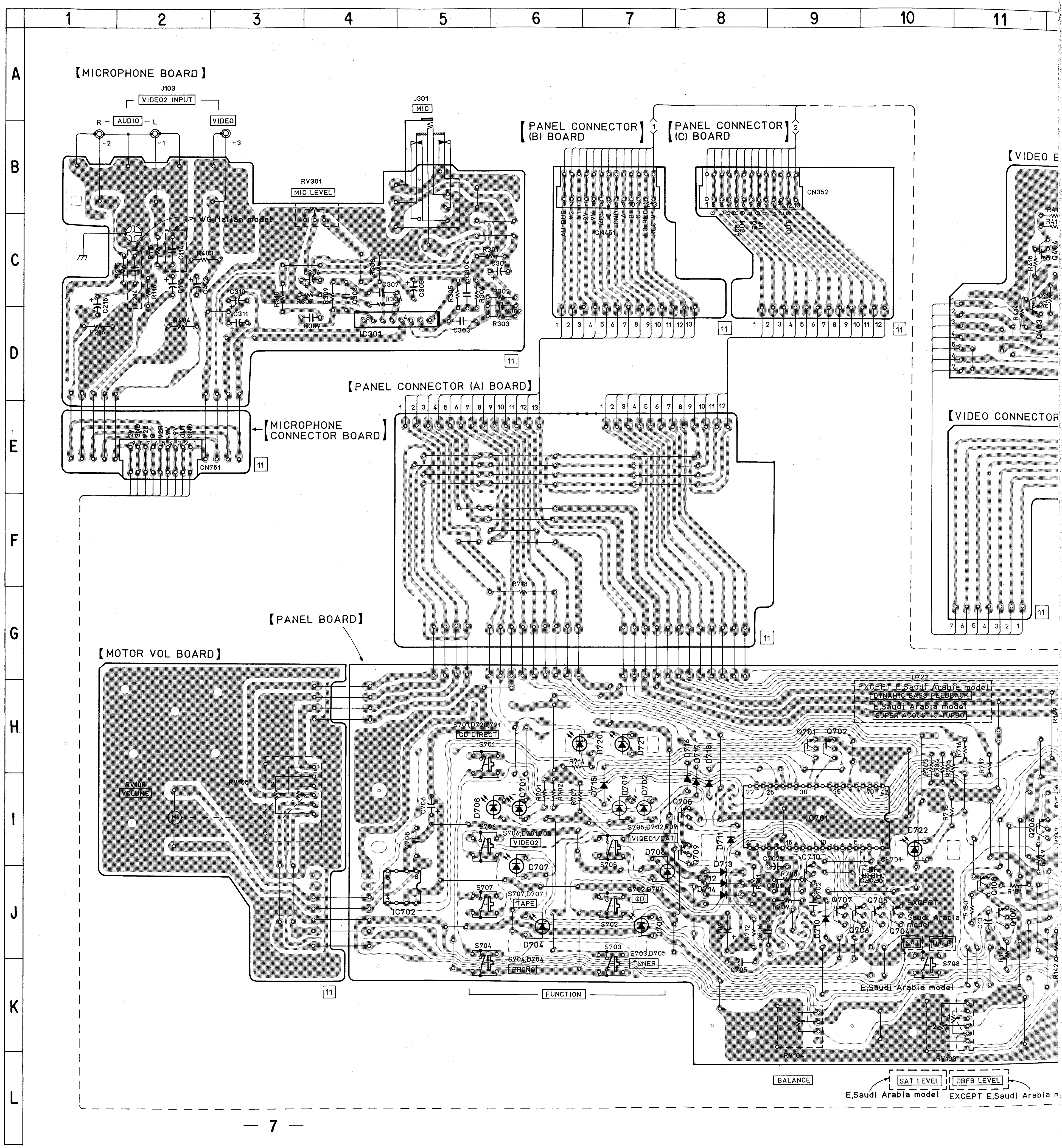
- See Page 5 for Semiconductor Lead Layout.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
IC101	C−16	Q706	J−9
IC102	G−17	Q707	J−9
IC103	H−17	Q708	I−8
IC104	C−17	Q709	I−8
IC105	C−18	Q710	J−9
		Q901	H−28
IC106	I−14		
IC107	I−12		
IC108	J−13	D501	E−21
IC109	J−12	D551	E−21
IC202	G−18	D601	J−21
		D602	C−20
IC301	D−4	D603	D−20
IC401	C−13		
IC501	G−21	D604	D−20
IC601	D−20	D701	I−6
IC701	I−9	D702	I−7
		D704	J−6
IC702	J−5	D705	J−7
IC901	J−17		
IC902	I−18	D706	I−7
IC903	J−18	D707	I−6
		D708	I−6
		D709	I−7
Q101	E−18	D710	J−9
Q102	E−18		
Q103	I−13	D711	I−8
Q104	H−13	D712	J−8
Q105	H−13	D713	J−8
		D714	J−8
Q106	H−12	D715	I−7
Q107	J−11		
Q108	J−11	D716	I−8
Q206	I−11	D717	I−8
Q207	I−12	D718	I−8
		D719	I−13
Q401	D−13	D720	H−7
Q402	D−12		
Q403	D−11	D721	H−7
Q404	C−12	D722	I−10
Q405	C−12	D901	H−25
		D902	H−27
Q406	C−13	D903	H−28
Q407	C−14		
Q408	C−14	D904	I−28
Q501	F−21	D905	I−26
Q551	E−21	D906	I−26
		D907	I−26
Q601	C−20	D908	I−26
Q701	H−9		
Q702	H−9	D909	J−17
Q704	J−10	D910	I−17
Q705	J−10	D911	J−18

Note :

- o— : parts extracted from the component side.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A
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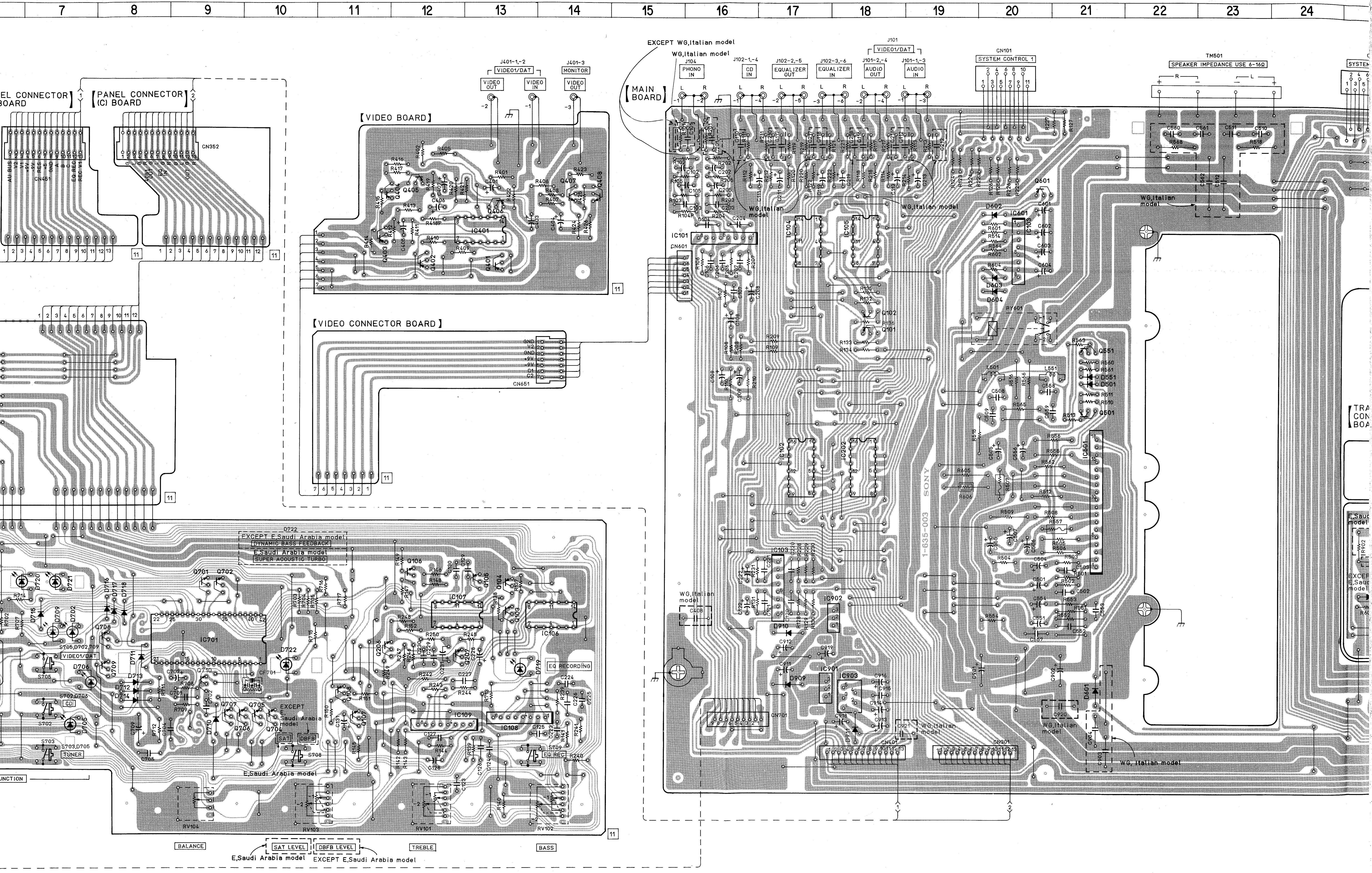
C
D
E
F
G
H
I
J
K
L
【MICROPHONE BOARD】
J103
VIDEO2 INPUT
R − AUDIO − L
VIDEO
J301
MIC
RV301
MIC LEVEL
WG,Italian model
IC301
【PANEL CONNECTOR (B) BOARD】
CN451
【PANEL CONNECTOR (C) BOARD】
CN352
【VIDEO
【MICROPHONE CONNECTOR BOARD】
CN751
【PANEL CONNECTOR (A) BOARD】
【VIDEO CONNECTOR
【PANEL BOARD】
【MOTOR VOL BOARD】
RV105
VOLUME
RV105
D722
EXCEPT E,Saudi Arabia model
DYNAMIC BASS FEEDBACK
E,Saudi Arabia model
SUPER ACOUSTIC TURBO
S701,D720,721
CD DIRECT
S706,D701,708
VIDEO2
S705,D702,709
VIDEO1/DAT
S707,D707
TAPE
S702,D706
CD
S704,D704
PHONO
S703,D705
TUNER
IC701
IC702
Q701
Q702
Q705
Q706
Q707
Q710
EXCEPT E,Saudi Arabia model
SAT
DBFB
S708
E,Saudi Arabia model
FUNCTION
RV104
BALANCE
RV103
SAT LEVEL
DBFB LEVEL
E,Saudi Arabia model
EXCEPT E,Saudi Arabia m
11


7
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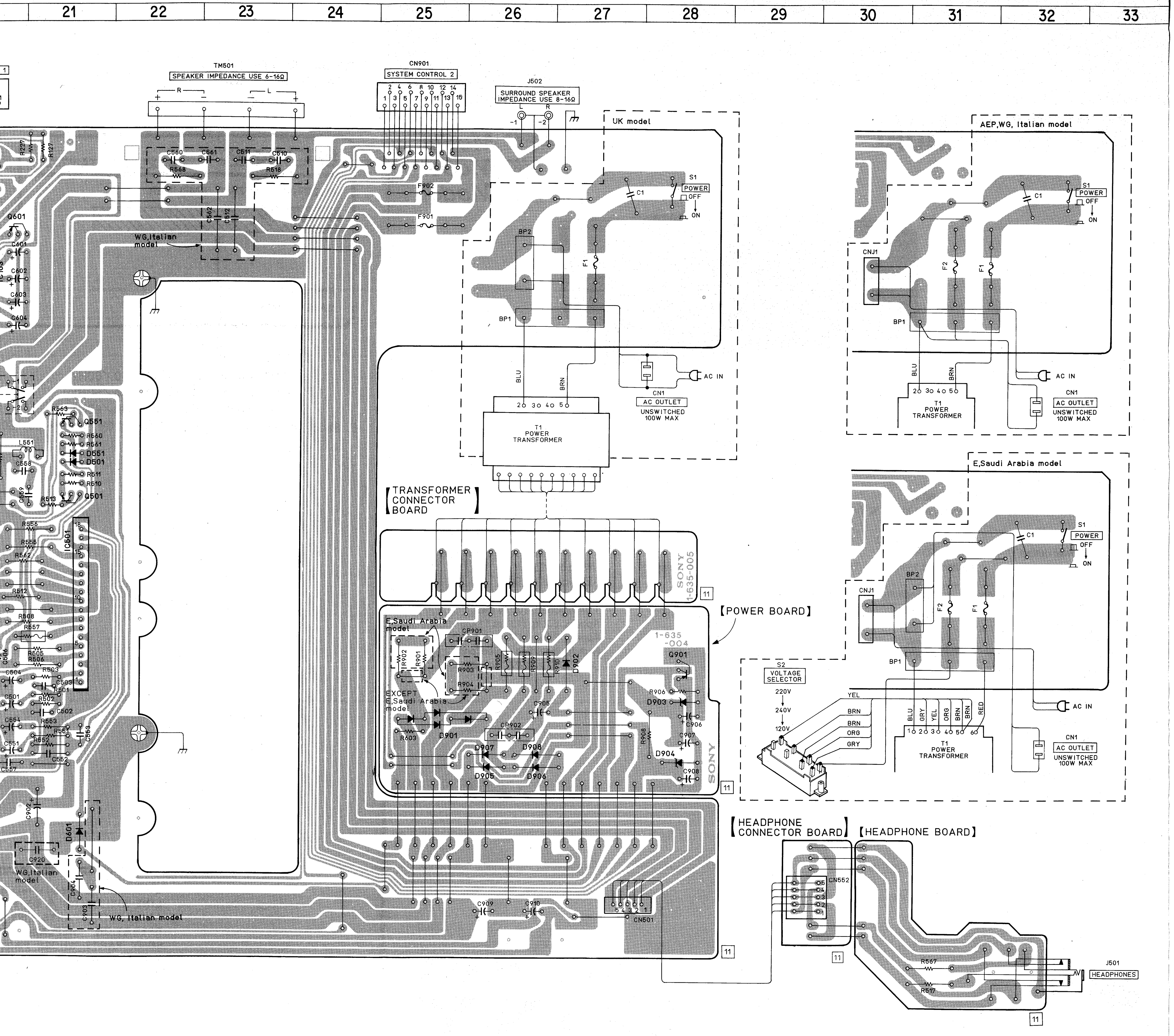
23
24
PANEL CONNECTOR (C) BOARD
CN352
CN461
VIDEO BOARD
J401-1,-2
VIDEO1/DAT
VIDEO OUT
VIDEO IN
J401-3
MONITOR
VIDEO OUT
IC401
VIDEO CONNECTOR BOARD
CN651
GND
V2
GND
+9V
-9V
C1
C2
MAIN BOARD
EXCEPT WG,Italian model
WG,Italian model
J104
PHONO IN
J102-1,-4
CD IN
J102-2,-5
EQUALIZER OUT
J102-3,-6
EQUALIZER IN
J101
VIDEO1/DAT
J101-2,-4
AUDIO OUT
J101-1,-3
AUDIO IN
CN101
SYSTEM CONTROL 1
TM501
SPEAKER IMPEDANCE USE 6-16Ω
IC101
CN601
IC104
IC105
IC601
IC102
IC202
IC103
IC902
IC901
IC903
IC501
RY601
CN701
CN401
CN301
SONY
1-635-003
EXCEPT E,Saudi Arabia model
DYNAMIC BASS FEEDBACK
E,Saudi Arabia model
SUPER ACOUSTIC TURBO
IC701
IC107
IC106
IC109
IC108
VIDEO1/DAT
CD
TUNER
SAT
DBFB
EQ REC
EQ RECORDING
BALANCE
SAT LEVEL
DBFB LEVEL
TREBLE
BASS
RV104
RV103
RV101
RV102
E,Saudi Arabia model
EXCEPT E,Saudi Arabia model
WG, Italian model
FUNCTION


21
22
23
24
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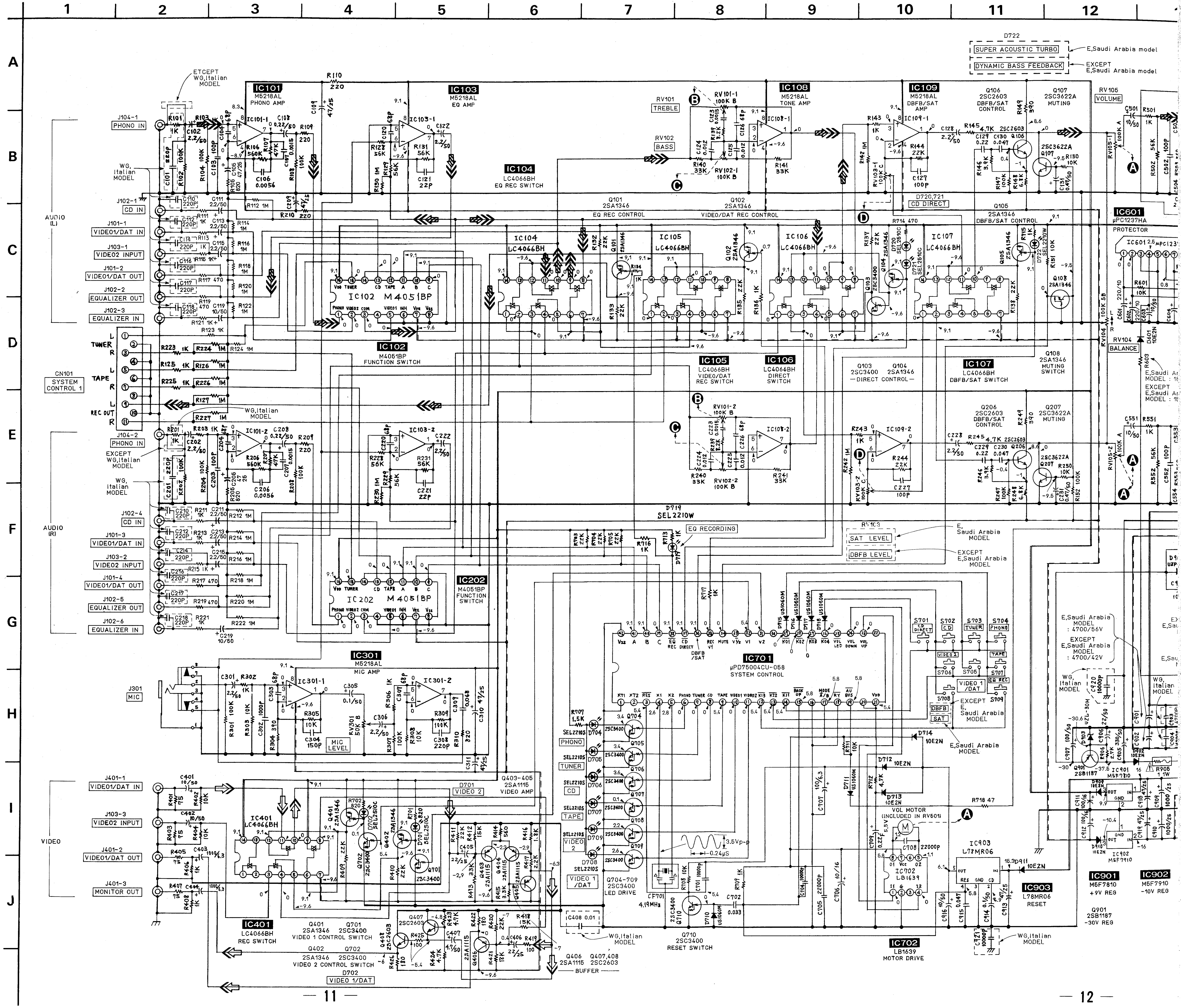
33
TM501
SPEAKER IMPEDANCE USE 6-16Ω
R
L
CN901
SYSTEM CONTROL 2
J502
SURROUND SPEAKER IMPEDANCE USE 8-16Ω
-1
-2
UK model
AEP,WG, Italian model
E,Saudi Arabia model
S1
POWER
OFF
ON
C1
F901
F902
F1
F2
BP1
BP2
CNJ1
BLU
BRN
AC IN
CN1
AC OUTLET
UNSWITCHED 100W MAX
T1
POWER TRANSFORMER
S2
VOLTAGE SELECTOR
220V
240V
120V
YEL
BRN
ORG
GRY
RED
TRANSFORMER CONNECTOR BOARD
POWER BOARD
HEADPHONE CONNECTOR BOARD
HEADPHONE BOARD
SONY
1-635-005
1-635-004
11
WG,Italian model
WG, Italian model
EXCEPT E,Saudi Arabia model
C560
C561
C511
C510
R568
R518
C562
C512
R227
R127
Q601
C601
C602
C603
C604
R563
Q551
R560
R561
D551
D501
L551
C558
R511
R510
R513
Q501
IC501
R556
R555
R562
R512
R508
R557
R505
R506
R503
C503
R501
R502
C502
C504
C501
R553
R551
C553
C554
C551
C552
C557
C902
D601
C920
C904
C903
CP901
R902
R901
R903
R904
R905
R909
R910
D902
Q901
R906
D903
C906
C907
R908
D904
C908
C905
CP902
R603
D901
D907
D908
D905
D906
C909
C910
CN501
CN552
R567
R517
J501
HEADPHONES

2-4. SCHEMATIC DIAGRAM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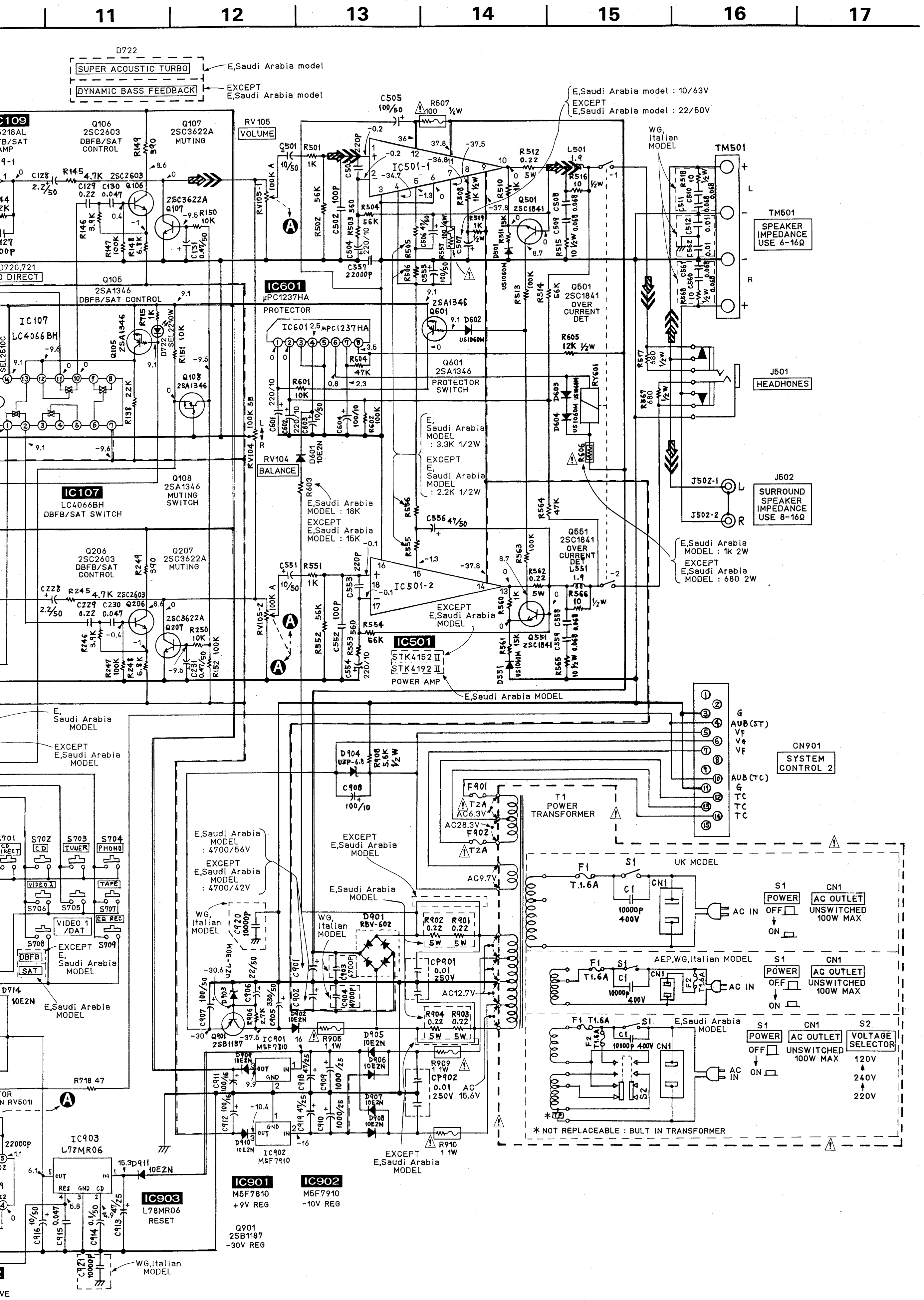
I
J
D722
SUPER ACOUSTIC TURBO
E,Saudi Arabia model
DYNAMIC BASS FEEDBACK
EXCEPT E,Saudi Arabia model
ETCEPT WG,Italian MODEL
IC101
M5218AL
PHONO AMP
IC103
M5218AL
EQ AMP
IC104
LC4066BH
EQ REC SWITCH
IC108
M5218AL
TONE AMP
IC109
M5218AL
DBFB/SAT AMP
Q106
2SC2603
DBFB/SAT CONTROL
Q107
2SC3622A
MUTING
RV105
VOLUME
RV101
TREBLE
RV102
BASS
Q101
2SA1346
EQ REC CONTROL
Q102
2SA1346
VIDEO/DAT REC CONTROL
D720,721
CD DIRECT
Q105
2SA1346
DBFB/SAT CONTROL
IC601
μPC1237HA
PROTECTOR
J104-1
PHONO IN
WG,Italian MODEL
J102-1
CD IN
J101-1
VIDEO1/DAT IN
J103-1
VIDEO2 INPUT
J101-2
VIDEO1/DAT OUT
J102-2
EQUALIZER OUT
J102-3
EQUALIZER IN
AUDIO (L)
IC102 M4051BP
IC102
M4051BP
FUNCTION SWITCH
IC105
LC4066BH
VIDEO/DAT REC SWITCH
IC106
LC4066BH
DIRECT SWITCH
Q103 2SC3400
Q104 2SA1346
—DIRECT CONTROL—
IC107
LC4066BH
DBFB/SAT SWITCH
Q108
2SA1346
MUTING SWITCH
RV104
BALANCE
CN101
SYSTEM CONTROL 1
TUNER
TAPE
REC OUT
J104-2
PHONO IN
EXCEPT WG,Italian MODEL
WG,Italian MODEL
Q206
2SC2603
DBFB/SAT CONTROL
Q207
2SC3622A
MUTING
J102-4
CD IN
J101-3
VIDEO1/DAT IN
J103-2
VIDEO2 INPUT
J101-4
VIDEO1/DAT OUT
J102-5
EQUALIZER OUT
J102-6
EQUALIZER IN
AUDIO (R)
D719
SEL2210W
EQ RECORDING
RV103
SAT LEVEL
DBFB LEVEL
E, Saudi Arabia MODEL
EXCEPT E,Saudi Arabia MODEL
IC202 M4051BP
IC202
M4051BP
FUNCTION SWITCH
S701 CD DIRECT
S702 CD
S703 TUNER
S704 PHONO
VIDEO 2
TAPE
S706
S705
S707
VIDEO 1 /DAT
EQ REC
S708 DBFB
SAT
S709
EXCEPT E, Saudi Arabia MODEL
E,Saudi Arabia MODEL
IC701
μPD75004CU-058
SYSTEM CONTROL
IC301
M5218AL
MIC AMP
J301
MIC
MIC LEVEL
E,Saudi Arabia MODEL : 4700/56V
EXCEPT E,Saudi Arabia MODEL : 4700/42V
D714 10E2N
D712 10E2N
D713 10E2N
R718 47
VOL MOTOR (INCLUDED IN RV601)
IC903 L78MR06
J401-1
VIDEO1/DAT IN
J103-3
VIDEO2 INPUT
J401-2
VIDEO1/DAT OUT
J401-3
MONITOR OUT
VIDEO
D701
VIDEO 2
Q403-405
2SA1115
VIDEO AMP
IC401 LC4066BH
IC401
LC4066BH
REC SWITCH
Q401 2SA1346
Q701 2SC3400
VIDEO 1 CONTROL SWITCH
Q402 2SA1346
Q702 2SC3400
VIDEO 2 CONTROL SWITCH
D702
VIDEO 1/DAT
Q406 2SA1115
Q407,408 2SC2603
BUFFER
IC408 0.01
WG,Italian MODEL
PHONO
TUNER
CD
TAPE
VIDEO 2
VIDEO 1 /DAT
SEL2210S
Q704-709
2SC3400
LED DRIVE
CF701 4.19MHz
Q710
2SC3400
RESET SWITCH
3.6Vp-p
0.24μS
IC702
LB1639
MOTOR DRIVE
IC901
M5F7810
+9V REG
IC902
M5F7910
-10V REG
IC903
L78MR06
RESET
Q901
2SB1187
-30V REG


11
12
13
14
15
16
17
D722
SUPER ACOUSTIC TURBO
E,Saudi Arabia model
DYNAMIC BASS FEEDBACK
EXCEPT
E,Saudi Arabia model
IC109
Q106
2SC2603
DBFB/SAT CONTROL
Q107
2SC3622A
MUTING
RV105
VOLUME
C505
100/50
R507
100 ¼W
E,Saudi Arabia model : 10/63V
EXCEPT
E,Saudi Arabia model : 22/50V
IC501-1
R512
0.22
L501
WG,
Italian
MODEL
TM501
TM601
SPEAKER
IMPEDANCE
USE 6-16Ω
Q501
2SC1841
D720,721
CD DIRECT
Q105
2SA1346
DBFB/SAT CONTROL
IC107
LC4066BH
IC601
μPC1237HA
PROTECTOR
IC601 μPC1237HA
Q601
2SA1346
Q501
2SC1841
OVER
CURRENT
DET
R605
12K ½W
Q601
2SA1346
PROTECTOR
SWITCH
J501
HEADPHONES
Q108
2SA1346
RV104
BALANCE
E,
Saudi Arabia
MODEL
: 3.3K 1/2W
EXCEPT
E,
Saudi Arabia
MODEL
: 2.2K 1/2W
IC107
LC4066BH
DBFB/SAT SWITCH
Q108
2SA1346
MUTING
SWITCH
E,Saudi Arabia
MODEL : 18K
EXCEPT
E,Saudi Arabia
MODEL : 15K
C556 47/50
J502-1
J502-2
J502
SURROUND
SPEAKER
IMPEDANCE
USE 8-16Ω
Q651
2SC1841
OVER
CURRENT
DET
L551
E,Saudi Arabia
MODEL : 1k 2W
EXCEPT
E,Saudi Arabia
MODEL : 680 2W
Q206
2SC2603
DBFB/SAT
CONTROL
Q207
2SC3622A
MUTING
IC501-2
EXCEPT
E,Saudi Arabia
MODEL
IC501
STK4162 II
STK4192 II
POWER AMP
E,Saudi Arabia MODEL
Q551
2SC1841
E,
Saudi Arabia
MODEL
EXCEPT
E,Saudi Arabia
MODEL
G
AUB(ST)
VF
Vσ
VF
AUB(TC)
G
TC
TC
TC
CN901
SYSTEM
CONTROL 2
D904
UZP-6.2
R908
5.6K ½W
C908
100/10
F401
T2A
AC6.3V
AC28.3V
F402
T2A
T1
POWER
TRANSFORMER
S701
S702
CD
S703
TUNER
S704
PHONO
VIDEO 2
TAPE
S706
S705
S707
EQ REC
VIDEO 1
/DAT
S708
EXCEPT
E,
Saudi Arabia
MODEL
S709
DBFB
SAT
E,Saudi Arabia
MODEL
: 4700/56V
EXCEPT
E,Saudi Arabia
MODEL
: 4700/42V
EXCEPT
E,Saudi Arabia
MODEL
E,Saudi Arabia
MODEL
WG,
Italian
MODEL
WG,
Italian
MODEL
D901
RBV-602
R902
0.22
R901
0.22
5W
CP901
0.01
250V
AC9.7V
AC12.7V
R904
0.22
R903
0.22
5W
F1
T1.6A
S1
UK MODEL
C1
10000P
400V
CN1
AC IN
S1
POWER
OFF
ON
CN1
AC OUTLET
UNSWITCHED
100W MAX
F1
T1.6A
AEP,WG,Italian MODEL
F2
T1.6A
E,Saudi Arabia
MODEL
S2
VOLTAGE
SELECTOR
120V
240V
220V
*NOT REPLACEABLE : BULT IN TRANSFORMER
D714
10E2N
E,Saudi Arabia
MODEL
Q901
2SB1187
IC901
M5F7810
R905
1 1W
D905
10E2N
D906
10E2N
R909
1 1W
CP902
0.01
250V
AC
15.6V
D907
10E2N
D908
10E2N
R910
1 1W
EXCEPT
E,Saudi Arabia
MODEL
IC902
M5F7910
R718 47
IC903
L78MR06
16.3
Q911
10EZN
IC903
L78MR06
RESET
IC901
M5F7810
+9V REG
IC902
M5F7910
-10V REG
Q901
2SB1187
-30V REG
WG,Italian
MODEL

Note :

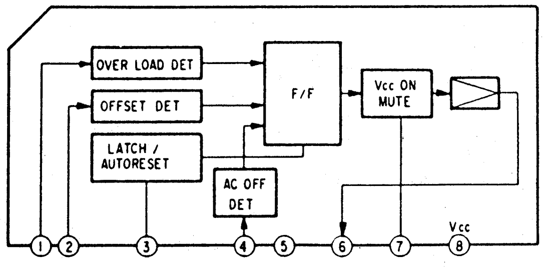
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬▬ : B+ Line
- ▬ ▬ ▬ : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : TV (PICTURE)
  ⇨ : PHONO

• IC BLOCK DIAGRAM

IC601 μPC1237HA


OVER LOAD DET
OFFSET DET
LATCH / AUTORESET
AC OFF DET
F/F
Vcc ON MUTE
Vcc
①
②
③
④
⑤
⑥
⑦
⑧

SECTION 3
EXPLODED VIEWS

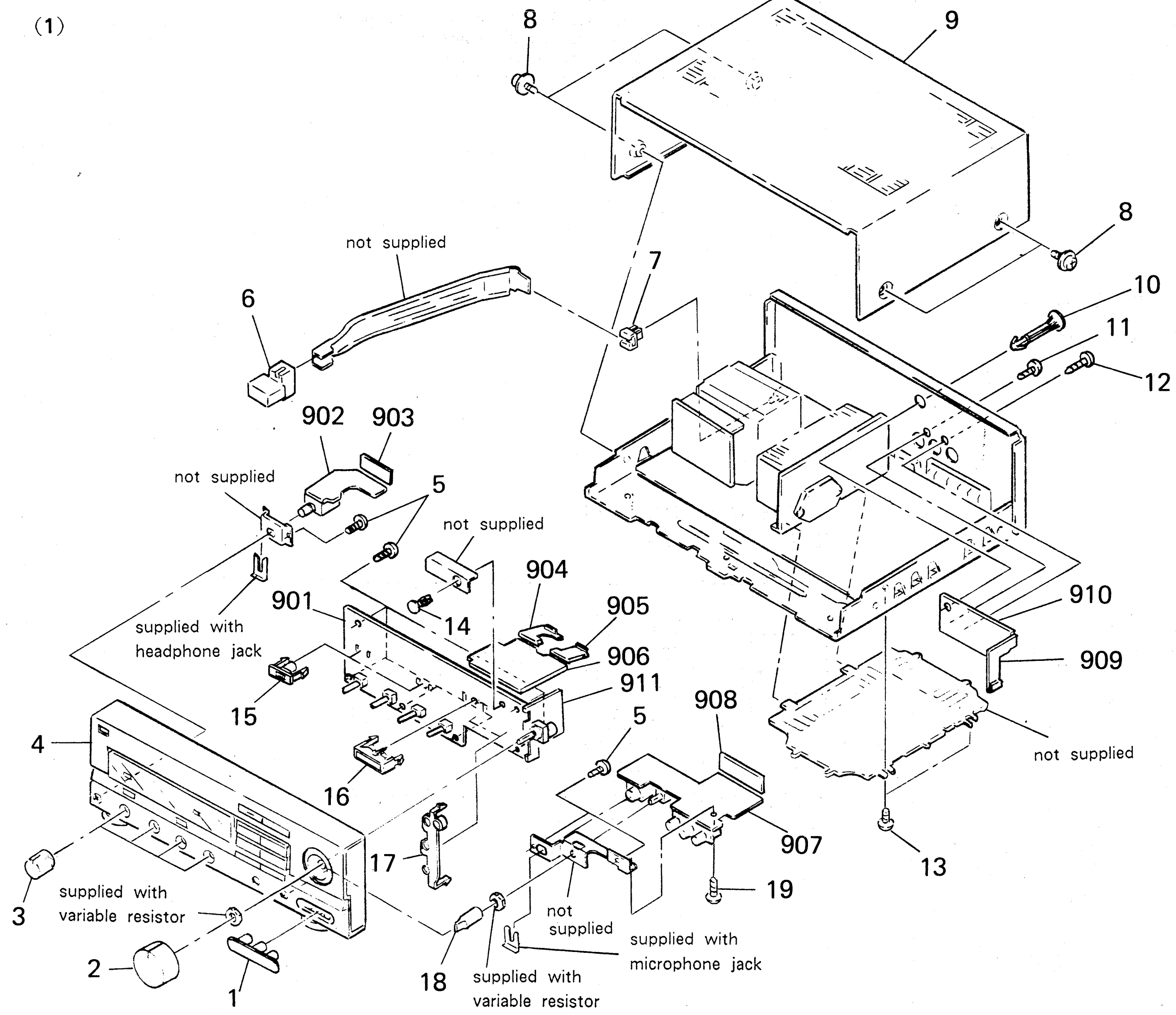
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

  (RED) ... KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

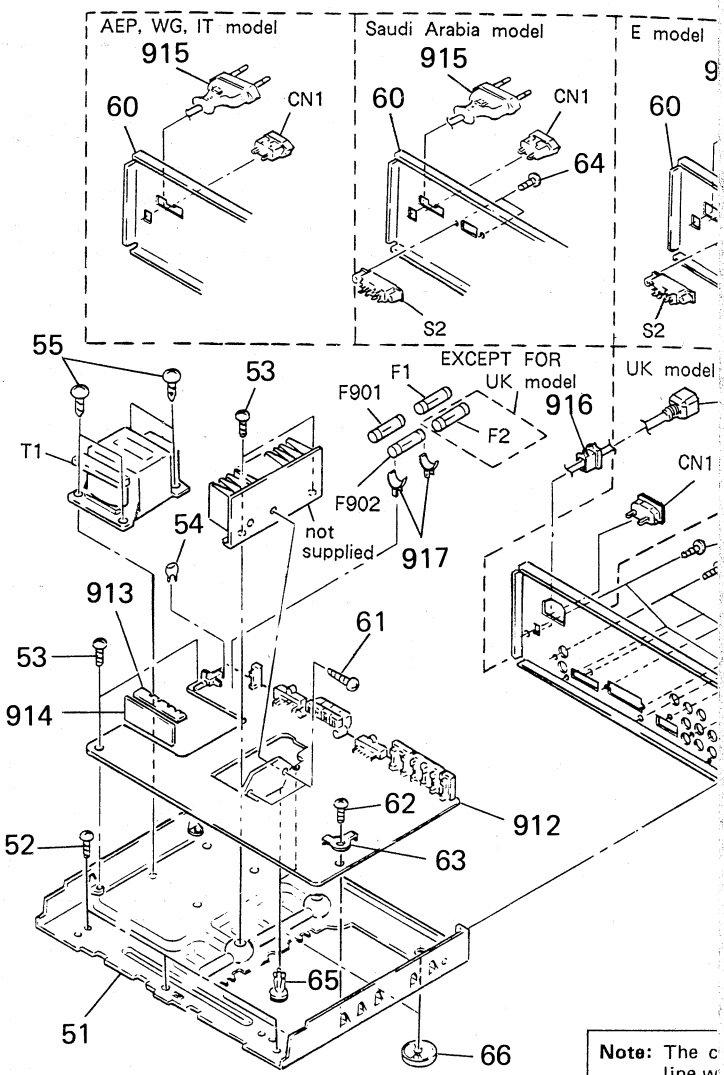
(1)


8
9
8
10
11
12
7
not supplied
6
902
903
not supplied
5
not supplied
904
905
906
911
901
14
supplied with headphone jack
15
4
16
5
908
910
909
not supplied
17
907
13
3
supplied with variable resistor
2
1
18
supplied with variable resistor
not supplied
supplied with microphone jack
19

No.	Part No.	Description	Remarks
1	*4-937-367-01	COVER (PIN JACK)	
2	4-929-288-22	KNOB (VOL 47)	
3	3-349-039-11	KNOB (VOL)	
4	X-4917-292-1	(AEP,UK,WG,IT)...PANEL ASSY, FRONT	
	X-4917-293-1	(E,EA)...........PANEL ASSY, FRONT	
5	4-928-635-00	SCREW +BV 2.6X8 TAPPING	
6	4-921-919-01	BUTTON (P)	
7	4-866-342-00	JOINT (B), KNOB	
8	3-704-366-01	SCREW (CASE) (M3X8)	
9	*4-919-379-61	CASE	
10	*4-912-181-21	SUPPORT, PC	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
12	7-621-849-00	SCREW, TAPPING	
13	7-682-547-09	SCREW +BVTT 3X6 (S)	
14	4-812-134-11	RIVET NYLON, 3.5	

No.	Part No.	Description	Remarks
15	*4-934-893-01	HOLDER, LED	
16	*4-934-894-01	COVER, LAMP	
17	*4-934-892-01	HOLDER (FU), LED	
18	4-921-921-01	KNOB (M)	
19	7-682-548-04	SCREW +BVTT 3X8 (S)	
901	*A-4334-678-A	MOUNTED PCB, PANEL	
902	*1-635-010-11	PC BOARD, HEADPHONE	
903	*1-635-016-11	PC BOARD, HEADPHONE CONNECTOR	
904	*1-635-013-11	PC BOARD, PANEL CONNECTOR (C)	
905	*1-635-012-11	PC BOARD, PANEL CONNECTOR (B)	
906	*1-635-011-11	PC BOARD, PANEL CONNECTOR (A)	
907	*1-635-008-11	PC BOARD, MICROPHONE	
908	*1-635-014-11	PC BOARD, MICROPHONE CONNECTOR	
909	*1-635-015-11	PC BOARD, VIDEO CONNECTOR	
910	*1-635-009-11	PC BOARD, VIDEO	
911	*1-635-007-11	PC BOARD, MOTOR VOL	

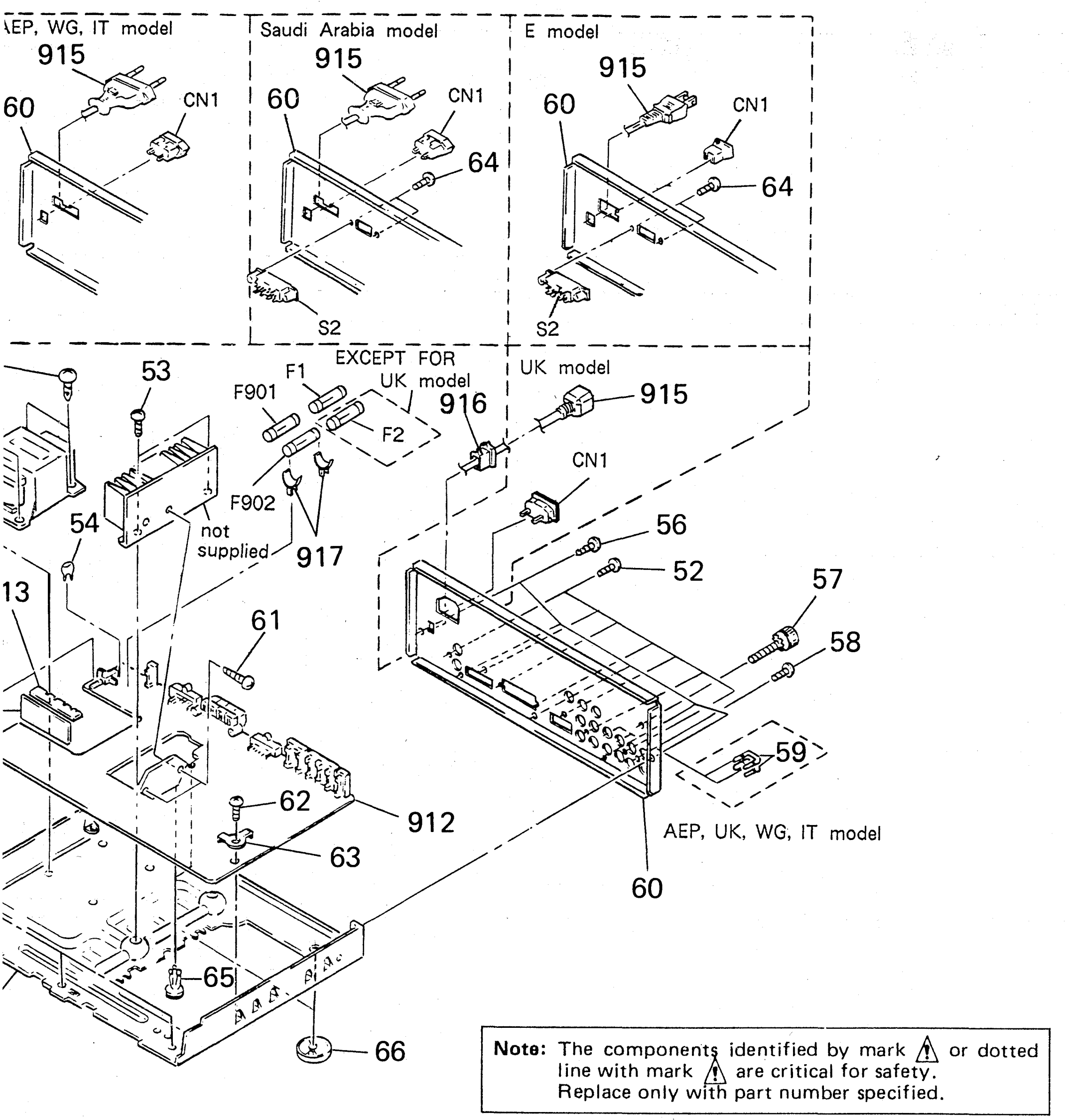
(2)


AEP, WG, IT model
915
60
CN1
Saudi Arabia model
915
60
CN1
64
S2
E model
9
60
S2
55
53
F901
F1
EXCEPT FOR UK model
916
F2
UK model
CN1
T1
54
not supplied
F902
917
913
61
53
914
62
912
52
63
65
51
66

Note: The c
line w
Repla

No.	Part No.	Description	Remarks
51	*X-4917-246-1	CHASSIS ASSY	
52	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
53	7-682-548-04	SCREW +BVTT 3X8 (S)	
54	2-269-321-00	COVER (DIA. 18), CAPACITOR	
55	7-682-560-04	SCREW +BVTT 4X6 (S)	
56	7-682-547-09	SCREW +BVTT 3X6 (S)	
57	3-706-165-00	SCREW	
58	7-621-849-00	SCREW, TAPPING	
59	1-535-706-11	(AEP,UK,WG,IT)...PLUG, JUMPER	
60	*4-937-301-11	(AEP)...PANEL, BACK	
	*4-937-301-21	(UK)....PANEL, BACK	
	*4-937-301-31	(E).....PANEL, BACK	
	*4-937-301-41	(WG)....PANEL, BACK	
	*4-937-301-51	(EA)....PANEL, BACK	
	*4-937-301-61	(IT)....PANEL, BACK	
61	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
62	7-682-547-04	SCREW +BV 3X6, S TIGHT	
63	*3-346-266-12	PLATE, GROUND	
64	7-685-534-19	(E,EA)...SCREW +BTP 2.6X8 TYPE2 N-S	
65	4-917-239-01	RIVET, NYLON	
66	*4-934-883-01	FOOT	
912	*A-4334-671-A	(AEP).....MOUNTED PCB, MAIN	
	*A-4334-672-A	(UK)......MOUNTED PCB, MAIN	
	*A-4334-673-A	(E,EA)....MOUNTED PCB, MAIN	
	*A-4334-674-A	(WG,IT)...MOUNTED PCB, MAIN	

No.	Part No.
913	*1-635-005-11
914	*1-635-004-11
915	⚠1-556-562-00
	⚠1-575-656-11
	⚠1-575-654-11
916	*3-703-244-00
	*3-703-571-11
917	*1-533-213-31
CN1	⚠1-526-751-00
CN1	⚠1-526-794-11
CN1	⚠1-526-882-00
F1	⚠1-532-259-00
F2	⚠1-532-259-00
F901	⚠1-532-388-51
F902	⚠1-532-388-51
S2	⚠1-570-307-11
T1	⚠1-450-022-11
T1	⚠1-450-023-11



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

ption	Remarks
S ASSY	
+BVTP 3X8 TYPE2 N-S	
+BVTT 3X8 (S)	
(DIA. 18), CAPACITOR	
+BVTT 4X6 (S)	
+BVTT 3X6 (S)	
TAPPING	
K,WG,IT)...PLUG, JUMPER	
..PANEL, BACK	
..PANEL, BACK	
..PANEL, BACK	
..PANEL, BACK	
..PANEL, BACK	
..PANEL, BACK	
+BVTP 3X16 TYPE2 IT-3	
+BV 3X6, S TIGHT	
GROUND	
...SCREW +BTP 2.6X8 TYPE2 N-S	
NYLON	
....MOUNTED PCB, MAIN	
....MOUNTED PCB, MAIN	
....MOUNTED PCB, MAIN	
)...MOUNTED PCB, MAIN	

No.	Part No.	Description	Remarks
913	*1-635-005-11	PC BOARD,TRANSFORMER CONNECTOR	
914	*1-635-004-11	PC BOARD, POWER	
915	⚠1-556-562-00	(UK)............CORD, POWER	
	⚠1-575-656-11	(E).............CORD, POWER	
	⚠1-575-654-11	(AEP,WG,IT,EA)...CORD, POWER	
916	*3-703-244-00	(EXCEPT E)...BUSHING (2104), CORD	
	*3-703-571-11	(E).......BUSHING (S)(4516), CORD	
917	*1-533-213-31	HOLDER, FUSE	
CN1	⚠1-526-751-00	(UK)............OUTLET, AC	
CN1	⚠1-526-794-11	(AEP,WG,IT,EA)...OUTLET, AC	
CN1	⚠1-526-882-00	(E).............OUTLET, AC	
F1	⚠1-532-259-00	FUSE	
F2	⚠1-532-259-00	(EXCEPT UK)...FUSE	
F901	⚠1-532-388-51	FUSE	
F902	⚠1-532-388-51	FUSE	
S2	⚠1-570-307-11	(E,EA)...SWITCH, VOLTAGE CHANGE	
T1	⚠1-450-022-11	(AEP,UK,WG,IT)...TRANSFORMER, POWER	
T1	⚠1-450-023-11	(E,EA)..........TRANSFORMER, POWER	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	*A-4334-678-A	MOUNTED PCB, PANEL			
902	*1-635-010-11	PC BOARD, HEADPHONE			
903	*1-635-016-11	PC BOARD, HEADPHONE CONNECTOR			
904	*1-635-013-11	PC BOARD, PANEL CONNECTOR (C)			
905	*1-635-012-11	PC BOARD, PANEL CONNECTOR (B)			
906	*1-635-011-11	PC BOARD, PANEL CONNECTOR (A)			
907	*1-635-008-11	PC BOARD, MICROPHONE			
908	*1-635-014-11	PC BOARD, MICROPHONE CONNECTOR			
909	*1-635-015-11	PC BOARD, VIDEO CONNECTOR			
910	*1-635-009-11	PC BOARD, VIDEO			
911	*1-635-007-11	PC BOARD, MOTOR VOL			
912	*A-4334-671-A	(AEP).....MOUNTED PCB, MAIN			
	*A-4334-672-A	(UK)......MOUNTED PCB, MAIN			
	*A-4334-673-A	(E,EA)....MOUNTED PCB, MAIN			
	*A-4334-674-A	(WG,IT)...MOUNTED PCB, MAIN			
913	*1-635-005-11	PC BOARD,TRANSFORMER CONNECTOR			
914	*1-635-004-11	PC BOARD, POWER			
915	⚠1-556-562-00	(UK)............CORD, POWER			
	⚠1-575-656-11	(E).............CORD, POWER			
	⚠1-575-654-11	(AEP,WG,IT,EA)...CORD, POWER			
916	*3-703-244-00	(EXCEPT E)...BUSHING (2104), CORD			
	*3-703-571-11	(E).......BUSHING (S)(4516), CORD			
917	*1-533-213-31	HOLDER, FUSE			
BP1	*1-535-140-00	BASE POST 19MM (10MM PITCH) 3P			
BP2	*1-535-139-00	(UK,E,EA)..BASE POST 19MM(10MM PITCH)2P			
C1	1-161-744-00	CERAMIC	0.01MF		400V
C101	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C102	1-124-257-00	ELECT	2.2MF	20%	50V
C103	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-162-219-31	CERAMIC	68PF	5%	50V
C105	1-124-910-11	ELECT	47MF	20%	25V
C106	1-130-480-00	MYLAR	0.0056MF	5%	50V
C107	1-130-473-00	MYLAR	0.0015MF	5%	50V
C108	1-124-464-11	ELECT	0.22MF	20%	50V
C109	1-124-910-11	ELECT	47MF	20%	25V
C110	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C111	1-124-257-00	ELECT	2.2MF	20%	50V
C112	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C113	1-126-161-11	ELECT	2.2MF	20%	50V
C114	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C115	1-126-161-11	ELECT	2.2MF	20%	50V
C116	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C117	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V

Ref.No.	Part No.	Description			
C118	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C119	1-126-059-11	ELECT	10MF	20%	50V
C120	1-162-219-31	CERAMIC	68PF	5%	50V
C121	1-162-207-31	CERAMIC	22PF	5%	50V
C122	1-126-161-11	ELECT	2.2MF	20%	50V
C123	1-130-473-00	MYLAR	0.0015MF	5%	50V
C124	1-130-484-00	MYLAR	0.012MF	5%	50V
C125	1-130-484-00	MYLAR	0.012MF	5%	50V
C126	1-162-219-31	CERAMIC	68PF	5%	50V
C127	1-162-282-31	CERAMIC	100PF	10%	50V
C128	1-124-257-00	ELECT	2.2MF	20%	50V
C129	1-136-169-00	FILM	0.22MF	5%	50V
C130	1-130-491-00	MYLAR	0.047MF	5%	50V
C131	1-124-465-00	ELECT	0.47MF	20%	50V
C201	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C202	1-124-257-00	ELECT	2.2MF	20%	50V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-162-219-31	CERAMIC	68PF	5%	50V
C205	1-124-910-11	ELECT	47MF	20%	25V
C206	1-130-480-00	MYLAR	0.0056MF	5%	50V
C207	1-130-473-00	MYLAR	0.0015MF	5%	50V
C208	1-124-464-11	ELECT	0.22MF	20%	50V
C209	1-124-910-11	ELECT	47MF	20%	25V
C210	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C211	1-124-257-00	ELECT	2.2MF	20%	50V
C212	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C213	1-126-161-11	ELECT	2.2MF	20%	50V
C214	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C215	1-126-161-11	ELECT	2.2MF	20%	50V
C216	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C217	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C218	1-162-286-31	(WG,IT)...CERAMIC	220PF	10%	50V
C219	1-126-059-11	ELECT	10MF	20%	50V
C220	1-162-219-31	CERAMIC	68PF	5%	50V
C221	1-162-207-31	CERAMIC	22PF	5%	50V
C222	1-126-161-11	ELECT	2.2MF	20%	50V
C223	1-130-473-00	MYLAR	0.0015MF	5%	50V
C224	1-130-484-00	MYLAR	0.012MF	5%	50V
C225	1-130-484-00	MYLAR	0.012MF	5%	50V
C226	1-162-219-31	CERAMIC	68PF	5%	50V
C227	1-162-282-31	CERAMIC	100PF	10%	50V
C228	1-124-257-00	ELECT	2.2MF	20%	50V
C229	1-136-169-00	FILM	0.22MF	5%	50V
C230	1-130-491-00	MYLAR	0.047MF	5%	50V
C231	1-124-465-00	ELECT	0.47MF	20%	50V
C301	1-126-161-11	ELECT	2.2MF	20%	50V

Ref.No.	Part No.	Description
C302	1-162-294-31	CERAMIC 0.001MF 10% 50V
C303	1-162-219-31	CERAMIC 68PF 5% 50V
C304	1-162-284-31	CERAMIC 150PF 10% 50V
C305	1-124-463-00	ELECT 0.1MF 20% 50V
C306	1-126-161-11	ELECT 2.2MF 20% 50V
C307	1-162-219-31	CERAMIC 68PF 5% 50V
C308	1-162-286-31	CERAMIC 220PF 10% 50V
C309	1-130-493-00	MYLAR 0.068MF 5% 50V
C310	1-124-910-11	ELECT 47MF 20% 25V
C311	1-124-910-11	ELECT 47MF 20% 25V
C401	1-126-059-11	ELECT 10MF 20% 50V
C402	1-126-059-11	ELECT 10MF 20% 50V
C403	1-124-471-00	ELECT 1000MF 20% 6.3V
C404	1-124-471-00	ELECT 1000MF 20% 6.3V
C405	1-126-049-11	ELECT 22MF 20% 25V
C406	1-126-049-11	ELECT 22MF 20% 25V
C407	1-124-045-00	ELECT 4.7MF 20% 50V
C408	1-136-153-00	(WG,IT)...FILM 0.01MF 5% 50V
C501	1-126-059-11	ELECT 10MF 20% 50V
C502	1-162-282-31	CERAMIC 100PF 10% 50V
C503	1-162-286-31	CERAMIC 220PF 10% 50V
C504	1-126-101-11	ELECT 220MF 20% 10V
C505	1-124-122-11	ELECT 100MF 20% 50V
C506	1-124-910-11	ELECT 47MF 20% 50V
C507	1-126-059-11	(E,EA).....ELECT 10MF 20% 63V
C507	1-126-233-11	(AEP,UK,WG,IT) ...ELECT 22MF 20% 50V
C508	1-130-493-00	MYLAR 0.068MF 5% 50V
C509	1-130-493-00	MYLAR 0.068MF 5% 50V
C510	1-130-493-00	(WG,IT)...MYLAR 0.068MF 5% 50V
C511	1-130-493-00	(WG,IT)...MYLAR 0.068MF 5% 50V
C512	1-161-379-00	(WG,IT)...CERAMIC 0.01MF 20% 25V
C551	1-126-059-11	ELECT 10MF 20% 50V
C552	1-162-282-31	CERAMIC 100PF 10% 50V
C553	1-162-286-31	CERAMIC 220PF 10% 50V
C554	1-126-101-11	ELECT 220MF 20% 10V
C555	1-124-122-11	ELECT 100MF 20% 50V
C556	1-124-910-11	ELECT 47MF 20% 50V
C557	1-161-494-00	CERAMIC 0.022MF 25V
C558	1-130-493-00	MYLAR 0.068MF 5% 50V
C559	1-130-493-00	MYLAR 0.068MF 5% 50V
C560	1-130-493-00	(WG,IT)...MYLAR 0.068MF 5% 50V
C561	1-130-493-00	(WG,IT)...MYLAR 0.068MF 5% 50V
C562	1-161-379-00	(WG,IT)...CERAMIC 0.01MF 20% 25V
C601	1-126-101-11	ELECT 220MF 20% 10V
C602	1-126-101-11	ELECT 220MF 20% 10V
C603	1-126-059-11	ELECT 10MF 20% 50V
C604	1-124-994-11	ELECT 100MF 20% 10V
C701	1-162-306-11	CERAMIC 0.01MF 20% 16V
C702	1-130-489-00	MYLAR 0.033MF 5% 50V
C704	1-162-306-11	CERAMIC 0.01MF 20% 16V
C705	1-161-494-00	CERAMIC 0.022MF 25V
C706	1-126-157-11	ELECT 10MF 20% 16V
C707	1-126-177-11	ELECT 100MF 20% 6.3V
C708	1-161-494-00	CERAMIC 0.022MF 25V
C709	1-125-486-11	DOUBLE CAYERS 0.22F 5.5V

Ref.No.	Part No.	Description
C901	1-126-258-11	(E,EA).....ELECT 4700MF 20% 56V
C901	1-126-224-11	(AEP,UK,WG,IT) ...ELECT 4700MF 20% 42V
C902	1-126-258-11	(E,EA).....ELECT 4700MF 20% 56V
C902	1-126-224-11	(AEP,UK,WG,IT) ...ELECT 4700MF 20% 42V
C903	1-161-377-00	(WG,IT)...CERAMIC 0.0047MF 20% 50V
C904	1-161-377-00	(WG,IT)...CERAMIC 0.0047MF 20% 50V
C905	1-126-871-11	ELECT 330MF 20% 50V
C906	1-126-233-11	ELECT 22MF 20% 50V
C907	1-124-122-11	ELECT 100MF 20% 50V
C908	1-124-994-11	ELECT 100MF 20% 10V
C909	1-126-027-11	ELECT 1000MF 20% 25V
C910	1-126-027-11	ELECT 1000MF 20% 25V
C911	1-126-023-11	ELECT 100MF 20% 16V
C912	1-126-023-11	ELECT 100MF 20% 16V
C913	1-124-910-11	ELECT 47MF 20% 25V
C914	1-124-463-00	ELECT 0.1MF 20% 50V
C915	1-130-491-00	MYLAR 0.047MF 5% 50V
C916	1-126-059-11	ELECT 10MF 20% 50V
C918	1-124-910-11	ELECT 47MF 20% 25V
C919	1-124-910-11	ELECT 47MF 20% 25V
C920	1-136-153-00	(WG,IT)...FILM 0.01MF 5% 50V
C921	1-136-153-00	(WG,IT)...FILM 0.01MF 5% 50V
CF701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)
CN1	⚠1-526-751-00	(UK).............OUTLET, AC
CN1	⚠1-526-794-11	(AEP,WG,IT,EA)...OUTLET, AC
CN1	⚠1-526-882-00	(E)..............OUTLET, AC
CN101	*1-566-858-41	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)
CN301	*1-565-969-11	PIN, CONNECTOR (PC BOARD) 13P
CN352	*1-565-972-11	SOCKET, CONNECTOR(PC BOARD)13P
CN401	*1-565-969-11	PIN, CONNECTOR (PC BOARD) 13P
CN451	*1-565-972-11	SOCKET, CONNECTOR(PC BOARD)13P
CN502	*1-565-967-11	PIN, CONNECTOR (PC BOARD) 5P
CN552	*1-565-970-11	SOCKET, CONNECTOR(PC BOARD) 5P
CN601	*1-565-343-11	PIN, CONNECTOR (PC BOARD) 7P
CN651	*1-565-346-11	SOCKET, CONNECTOR (PC BAORD)7P
CN701	*1-565-968-11	PIN, CONNECTOR (PC BOARD) 9P
CN751	*1-565-971-11	SOCKET, CONNECTOR(PC BOARD) 9P
CN901	*1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)
CNJ1	*1-564-321-00	(EXCEPT UK)...PIN, CONNECTOR 2P
CP901	1-102-394-11	CERAMIC 0.01MF 250V
CP902	1-102-394-11	CERAMIC 0.01MF 250V
D501	8-719-912-20	DIODE 1SS120
D551	8-719-912-20	DIODE 1SS120
D601	8-719-200-77	DIODE 10E2N
D602	8-719-912-20	DIODE 1SS120
D603	8-719-912-20	DIODE 1SS120
D604	8-719-912-20	DIODE 1SS120
D701	8-719-303-00	LED SEL2510C
D702	8-719-303-00	LED SEL2510C
D704	8-719-301-38	LED SEL2210S-C
D705	8-719-301-38	LED SEL2210S-C
D706	8-719-301-38	LED SEL2210S-C
D707	8-719-301-38	LED SEL2210S-C
D708	8-719-301-38	LED SEL2210S-C

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description
D709	8-719-301-38	LED SEL2210S-C
D710	8-719-912-20	DIODE 1SS120
D711	8-719-912-20	DIODE 1SS120
D712	8-719-200-77	DIODE 10E2N
D713	8-719-200-77	DIODE 10E2N
D714	8-719-200-77	DIODE 10E2N
D715	8-719-912-20	DIODE 1SS120
D716	8-719-912-20	DIODE 1SS120
D717	8-719-912-20	DIODE 1SS120
D718	8-719-912-20	DIODE 1SS120
D719	8-719-302-75	LED SEL2210W-D
D720	8-719-303-00	LED SEL2510C
D721	8-719-303-00	LED SEL2510C
D722	8-719-302-75	LED SEL2210W-D
D901	8-719-302-38	DIODE RBV-602-01
D902	8-719-200-77	DIODE 10E2N
D903	8-719-934-22	ZENER DIODE HZS30-2L
D904	8-719-014-88	ZENER DIODE UZP-6.8BC
D905	8-719-200-77	DIODE 10E2N
D906	8-719-200-77	DIODE 10E2N
D907	8-719-200-77	DIODE 10E2N
D908	8-719-200-77	DIODE 10E2N
D909	8-719-200-77	DIODE 10E2N
D910	8-719-200-77	DIODE 10E2N
D911	8-719-200-77	DIODE 10E2N
F1	⚠1-532-259-00	FUSE
F2	⚠1-532-259-00	(EXCEPT UK)...FUSE
F901	⚠1-532-388-51	FUSE
F902	⚠1-532-388-51	FUSE
IC101	8-759-634-50	IC M5218AL
IC102	8-759-208-06	IC TC4051BPHB
IC103	8-759-634-50	IC M5218AL
IC104	8-759-800-37	IC LC4066BH
IC105	8-759-800-37	IC LC4066BH
IC106	8-759-800-37	IC LC4066BH
IC107	8-759-800-37	IC LC4066BH
IC108	8-759-634-50	IC M5218AL
IC109	8-759-634-50	IC M5218AL
IC202	8-759-208-06	IC TC4051BPHB
IC301	8-759-634-50	IC M5218AL
IC401	8-759-800-37	IC LC4066BH
IC501	8-749-900-78	(E,EA)...........IC STK4192II
IC501	8-749-941-52	(AEP,UK,WG,IT)...IC STK4152II
IC601	8-759-111-68	IC UPC1237HA
IC701	8-759-149-27	IC UPD75004CU-058
IC702	8-759-820-62	IC LB1639
IC901	8-759-604-32	IC M5F7810L
IC902	8-759-604-50	IC M5F7910L
IC903	8-759-820-13	IC L78MR06
J101	1-565-258-11	JACK, PIN 4P (VIDEO 1/DAT)
J102	1-565-320-11	JACK, PIN 6P (CD,EQUALIZER)
J103	*1-563-136-41	JACK, PIN 3P (VIDEO 2)
J104	1-565-352-11	JACK, PIN 2P (PHONO)
J301	1-568-018-11	JACK, LARGE TYPE 1P (MIC)
J401	1-565-933-11	JACK, PIN 3P (VIDEO 1/DAT,MONITOR)
J501	1-568-018-11	JACK, LARGE TYPE 1P (HEADPHONES)
J502	1-565-352-11	JACK, PIN 2P (SURROUND SPEAKER)
L501	*1-420-872-00	COIL, AIR CORE
L551	*1-420-872-00	COIL, AIR CORE

Ref.No.	Part No.	Description			
Q101	8-729-900-63	TRANSISTOR DTA124ES			
Q102	8-729-900-63	TRANSISTOR DTA124ES			
Q103	8-729-900-36	TRANSISTOR DTC124ES			
Q104	8-729-900-63	TRANSISTOR DTA124ES			
Q105	8-729-900-63	TRANSISTOR DTA124ES			
Q106	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q107	8-729-141-26	TRANSISTOR 2SC3622A-LK			
Q108	8-729-900-63	TRANSISTOR DTA124ES			
Q206	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q207	8-729-141-26	TRANSISTOR 2SC3622A-LK			
Q401	8-729-900-63	TRANSISTOR DTA124ES			
Q402	8-729-900-63	TRANSISTOR DTA124ES			
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q404	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q405	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q406	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q407	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q408	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q501	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
Q551	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
Q601	8-729-900-63	TRANSISTOR DTA124ES			
Q701	8-729-900-36	TRANSISTOR DTC124ES			
Q702	8-729-900-36	TRANSISTOR DTC123ES			
Q704	8-729-900-36	TRANSISTOR DTC124ES			
Q705	8-729-900-36	TRANSISTOR DTC124ES			
Q706	8-729-900-36	TRANSISTOR DTC124ES			
Q707	8-729-900-36	TRANSISTOR DTC124ES			
Q708	8-729-900-36	TRANSISTOR DTC124ES			
Q709	8-729-900-36	TRANSISTOR DTC124ES			
Q710	8-729-900-36	TRANSISTOR DTC124ES			
Q901	8-729-920-97	TRANSISTOR 2SB1187-EF			
R101	1-249-417-11	(WG,IT)...CARBON	1K	5%	1/4W
R102	1-249-441-11	CARBON	100K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-441-11	CARBON	100K	5%	1/4W
R105	1-249-416-11	CARBON	820	5%	1/4W
R106	1-247-897-11	CARBON	560K	5%	1/4W
R107	1-249-437-11	CARBON	47K	5%	1/4W
R108	1-249-441-11	CARBON	100K	5%	1/4W
R109	1-249-409-11	CARBON	220	5%	1/4W
R110	1-249-409-11	CARBON	220	5%	1/4W
R111	1-249-417-11	CARBON	1K	5%	1/4W
R112	1-247-903-00	CARBON	1M	5%	1/4W
R113	1-249-417-11	CARBON	1K	5%	1/4W
R114	1-247-903-00	CARBON	1M	5%	1/4W
R115	1-249-417-11	CARBON	1K	5%	1/4W
R116	1-247-903-00	CARBON	1M	5%	1/4W
R117	1-249-413-11	CARBON	470	5%	1/4W
R118	1-247-903-00	CARBON	1M	5%	1/4W
R119	1-249-413-11	CARBON	470	5%	1/4W
R120	1-247-903-00	CARBON	1M	5%	1/4W
R121	1-249-417-11	CARBON	1K	5%	1/4W
R122	1-247-903-00	CARBON	1M	5%	1/4W
R123	1-249-417-11	CARBON	1K	5%	1/4W
R124	1-247-903-00	CARBON	1M	5%	1/4W
R125	1-249-417-11	CARBON	1K	5%	1/4W
R126	1-247-903-00	CARBON	1M	5%	1/4W
R127	1-247-903-00	CARBON	1M	5%	1/4W

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
R128	1-249-438-11	CARBON	56K	5%	1/4W
R129	1-249-438-11	CARBON	56K	5%	1/4W
R130	1-247-903-00	CARBON	1M	5%	1/4W
R131	1-249-438-11	CARBON	56K	5%	1/4W
R132	1-249-433-11	CARBON	22K	5%	1/4W
R133	1-249-433-11	CARBON	22K	5%	1/4W
R134	1-249-417-11	CARBON	1K	5%	1/4W
R135	1-249-433-11	CARBON	22K	5%	1/4W
R136	1-249-417-11	CARBON	1K	5%	1/4W
R137	1-249-433-11	CARBON	22K	5%	1/4W
R138	1-249-433-11	CARBON	22K	5%	1/4W
R139	1-249-428-11	CARBON	8.2K	5%	1/4W
R140	1-249-435-11	CARBON	33K	5%	1/4W
R141	1-249-435-11	CARBON	33K	5%	1/4W
R142	1-247-903-00	CARBON	1M	5%	1/4W
R143	1-249-417-11	CARBON	1K	5%	1/4W
R144	1-249-433-11	CARBON	22K	5%	1/4W
R145	1-249-425-11	CARBON	4.7K	5%	1/4W
R146	1-249-424-11	CARBON	3.9K	5%	1/4W
R147	1-249-441-11	CARBON	100K	5%	1/4W
R148	1-249-427-11	CARBON	6.8K	5%	1/4W
R149	1-249-412-11	CARBON	390	5%	1/4W
R150	1-249-429-11	CARBON	10K	5%	1/4W
R151	1-249-429-11	CARBON	10K	5%	1/4W
R152	1-249-441-11	CARBON	100K	5%	1/4W
R201	1-249-417-11	(WG,IT)...CARBON	1K	5%	1/4W
R202	1-249-441-11	CARBON	100K	5%	1/4W
R203	1-249-417-11	CARBON	1K	5%	1/4W
R204	1-249-441-11	CARBON	100K	5%	1/4W
R205	1-249-416-11	CARBON	820	5%	1/4W
R206	1-247-897-11	CARBON	560K	5%	1/4W
R207	1-249-437-11	CARBON	47K	5%	1/4W
R208	1-249-441-11	CARBON	100K	5%	1/4W
R209	1-249-409-11	CARBON	220	5%	1/4W
R210	1-249-409-11	CARBON	220	5%	1/4W
R211	1-249-417-11	CARBON	1K	5%	1/4W
R212	1-247-903-00	CARBON	1M	5%	1/4W
R213	1-249-417-11	CARBON	1K	5%	1/4W
R214	1-247-903-00	CARBON	1M	5%	1/4W
R215	1-249-417-11	CARBON	1K	5%	1/4W
R216	1-247-903-00	CARBON	1M	5%	1/4W
R217	1-249-413-11	CARBON	470	5%	1/4W
R218	1-247-903-00	CARBON	1M	5%	1/4W
R219	1-249-413-11	CARBON	470	5%	1/4W
R220	1-247-903-00	CARBON	1M	5%	1/4W
R221	1-249-417-11	CARBON	1K	5%	1/4W
R222	1-247-903-00	CARBON	1M	5%	1/4W
R223	1-249-417-11	CARBON	1K	5%	1/4W
R224	1-247-903-00	CARBON	1M	5%	1/4W
R225	1-249-417-11	CARBON	1K	5%	1/4W
R226	1-247-903-00	CARBON	1M	5%	1/4W
R227	1-247-903-00	CARBON	1M	5%	1/4W
R228	1-249-438-11	CARBON	56K	5%	1/4W
R229	1-249-438-11	CARBON	56K	5%	1/4W
R230	1-247-903-00	CARBON	1M	5%	1/4W
R231	1-249-438-11	CARBON	56K	5%	1/4W
R239	1-249-428-11	CARBON	8.2K	5%	1/4W

Ref.No.	Part No.	Description			
R240	1-249-435-11	CARBON	33K	5%	1/4W
R241	1-249-435-11	CARBON	33K	5%	1/4W
R242	1-247-903-00	CARBON	1M	5%	1/4W
R243	1-249-417-11	CARBON	1K	5%	1/4W
R244	1-249-433-11	CARBON	22K	5%	1/4W
R245	1-249-425-11	CARBON	4.7K	5%	1/4W
R246	1-249-424-11	CARBON	3.9K	5%	1/4W
R247	1-249-441-11	CARBON	100K	5%	1/4W
R248	1-249-427-11	CARBON	6.8K	5%	1/4W
R249	1-249-412-11	CARBON	390	5%	1/4W
R250	1-249-429-11	CARBON	10K	5%	1/4W
R301	1-249-441-11	CARBON	100K	5%	1/4W
R302	1-249-417-11	CARBON	1K	5%	1/4W
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-412-11	CARBON	390	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-417-11	CARBON	1K	5%	1/4W
R307	1-249-441-11	CARBON	100K	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-441-11	CARBON	100K	5%	1/4W
R310	1-249-416-11	CARBON	820	5%	1/4W
R401	1-247-804-11	CARBON	75	5%	1/4W
R402	1-249-429-11	CARBON	10K	5%	1/4W
R403	1-247-804-11	CARBON	75	5%	1/4W
R404	1-249-429-11	CARBON	10K	5%	1/4W
R405	1-247-804-11	CARBON	75	5%	1/4W
R406	1-249-417-11	CARBON	1K	5%	1/4W
R407	1-247-804-11	CARBON	75	5%	1/4W
R408	1-249-417-11	CARBON	1K	5%	1/4W
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-249-433-11	CARBON	22K	5%	1/4W
R411	1-249-433-11	CARBON	22K	5%	1/4W
R412	1-249-431-11	CARBON	15K	5%	1/4W
R413	1-249-435-11	CARBON	33K	5%	1/4W
R414	1-249-414-11	CARBON	560	5%	1/4W
R415	1-249-423-11	CARBON	3.3K	5%	1/4W
R416	1-249-420-11	CARBON	1.8K	5%	1/4W
R417	1-249-421-11	CARBON	2.2K	5%	1/4W
R418	1-249-431-11	CARBON	15K	5%	1/4W
R419	1-249-405-11	CARBON	100	5%	1/4W
R420	1-249-433-11	CARBON	22K	5%	1/4W
R421	1-249-432-11	CARBON	18K	5%	1/4W
R422	1-249-408-11	CARBON	180	5%	1/4W
R423	1-249-425-11	CARBON	4.7K	5%	1/4W
R424	1-249-425-11	CARBON	4.7K	5%	1/4W
R425	1-249-405-11	CARBON	100	5%	1/4W
R426	1-249-408-11	CARBON	180	5%	1/4W
R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-249-438-11	CARBON	56K	5%	1/4W
R503	1-249-414-11	CARBON	560	5%	1/4W
R504	1-249-438-11	CARBON	56K	5%	1/4W
R505	1-247-756-11	(AEP,UK,WG,IT)...CARBON	2.2K	5%	1/2W
R505	1-247-758-11	(E,EA)...........CARBON	3.3K	5%	1/2W
R506	1-247-756-11	(AEP,UK,WG,IT)...CARBON	2.2K	5%	1/2W
R506	1-247-758-11	(E,EA)...........CARBON	3.3K	5%	1/2W

Ref.No.	Part No.	Description
R507	⚠1-212-881-11	FUSIBLE 100 5% 1/4W F
R508	1-247-752-11	CARBON 1K 5% 1/2W
R509	1-247-752-11	CARBON 1K 5% 1/2W
R510	1-249-417-11	CARBON 1K 5% 1/4W
R511	1-249-431-11	CARBON 15K 5% 1/4W
R512	1-217-156-00	METAL PLATE 0.22 10% 5W
R513	1-249-441-11	CARBON 100K 5% 1/4W
R514	1-249-438-11	CARBON 56K 5% 1/4W
R515	1-247-727-11	CARBON 10 5% 1/2W
R516	1-247-727-11	CARBON 10 5% 1/2W
R517	1-247-750-11	CARBON 680 5% 1/2W
R518	1-247-727-11	(WG,IT)...CARBON 10 5% 1/2W
R551	1-249-417-11	CARBON 1K 5% 1/4W
R552	1-249-438-11	CARBON 56K 5% 1/4W
R553	1-249-414-11	CARBON 560 5% 1/4W
R554	1-249-438-11	CARBON 56K 5% 1/4W
R555	1-247-756-11	(AEP,UK,WG,IT)...CARBON 2.2K 5% 1/2W
R555	1-247-758-11	(E,EA)...........CARBON 3.3K 5% 1/2W
R556	1-247-756-11	(AEP,UK,WG,IT)...CARBON 2.2K 5% 1/2W
R556	1-247-758-11	(E,EA)...........CARBON 3.3K 5% 1/2W
R557	⚠1-212-881-11	FUSIBLE 100 5% 1/4W F
R560	1-249-417-11	CARBON 1K 5% 1/4W
R561	1-249-431-11	CARBON 15K 5% 1/4W
R562	1-217-156-00	METAL PLATE 0.22 10% 5W
R563	1-249-441-11	CARBON 100K 5% 1/4W
R564	1-249-437-11	CARBON 47K 5% 1/4W
R565	1-247-727-11	CARBON 10 5% 1/2W
R566	1-247-727-11	CARBON 10 5% 1/2W
R567	1-247-750-11	CARBON 680 5% 1/2W
R568	1-247-727-11	(WG,IT)...CARBON 10 5% 1/2W
R601	1-249-429-11	CARBON 10K 5% 1/4W
R602	1-249-441-11	CARBON 100K 5% 1/4W
R603	1-249-431-11	(AEP,UK,WG,IT)...CARBON 15K 5% 1/4W
R603	1-249-432-11	(E,EA)...........CARBON 18K 5% 1/4W
R604	1-249-437-11	CARBON 47K 5% 1/4W
R605	1-249-486-11	CARBON 12K 5% 1/2W
R606	⚠1-215-891-11	(AEP,UK,WG,IT) ...METAL OXIDE 680 5% 2W F
R606	⚠1-215-892-11	(E,EA).....METAL OXIDE 1K 5% 2W F
R701	1-249-416-11	CARBON 820 5% 1/4W
R702	1-249-416-11	CARBON 820 5% 1/4W
R703	1-249-433-11	CARBON 22K 5% 1/4W
R704	1-249-433-11	CARBON 22K 5% 1/4W
R705	1-249-433-11	CARBON 22K 5% 1/4W
R707	1-249-419-11	CARBON 1.5K 5% 1/4W
R708	1-249-429-11	CARBON 10K 5% 1/4W
R709	1-249-417-11	CARBON 1K 5% 1/4W
R711	1-249-429-11	CARBON 10K 5% 1/4W
R712	1-249-425-11	CARBON 4.7K 5% 1/4W
R713	1-249-417-11	CARBON 1K 5% 1/4W
R714	1-249-413-11	CARBON 470 5% 1/4W
R715	1-249-417-11	CARBON 1K 5% 1/4W
R716	1-249-417-11	CARBON 1K 5% 1/4W
R717	1-249-417-11	CARBON 1K 5% 1/4W
R718	1-249-401-11	CARBON 47 5% 1/4W
R901	1-217-156-00	(E,EA)....METAL PLATE 0.22 10% 5W
R902	1-217-156-00	(E,EA)....METAL PLATE 0.22 10% 5W
R903	1-217-156-00	(E,EA)....METAL PLATE 0.22 10% 5W
R904	1-217-156-00	(E,EA)....METAL PLATE 0.22 10% 5W
R905	⚠1-217-469-00	FUSIBLE 1 5% 1W F
R906	1-249-422-11	CARBON 2.7K 5% 1/4W
R908	⚠1-247-761-11	CARBON 5.6K 5% 1/2W
R909	⚠1-217-469-00	FUSIBLE 1 5% 1W F
R910	⚠1-217-469-00	FUSIBLE 1 5% 1W F
RV101	1-238-978-11	RES, VAR, CARBON 100KX2 (TREBLE)
RV102	1-238-978-11	RES, VAR, CARBON 100KX2 (BASS)
RV103	1-238-977-11	RES, VAR, CARBON 100KX2(SAT/DBFB LEVEL)
RV104	1-238-459-11	RES, VAR, CARBON 100K (BALANCE)
RV105	1-238-870-11	RES, VAR, CARBON (MOTOR)100KX2(VOLUME)
RV301	1-238-744-11	RES, VAR, CARBON, 50K (MIC LEVEL)
RY601	1-515-765-11	RELAY
S1	1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)
S2	⚠1-570-307-11	(E,EA)...SWITCH, VOLTAGE CHANGE
S701	1-554-303-21	SWITCH, KEY BOARD (CD DIRECT)
S702	1-554-303-21	SWITCH, KEY BOARD (CD)
S703	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S704	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S705	1-554-303-21	SWITCH, KEY BOARD (VIDEO 2)
S706	1-554-303-21	SWITCH, KEY BOARD (VIDEO 1/DAT)
S707	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S708	1-554-303-21	SWITCH, KEY BOARD (SAT/DBFB)
S709	1-554-303-21	SWITCH, KEY BOARD (EQ REC)
T1	⚠1-450-022-11	(AEP,UK,WG,IT)...TRANSFORMER, POWER
T1	⚠1-450-023-11	(E,EA)...........TRANSFORMER, POWER
TM501	1-537-238-11	TERMINAL BOARD (SPEAKER)

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

9-955-851-11

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Audio Group

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TC-V702/V902

SERVICE MANUAL

AEP Model
UK Model
E Model

TC-V702 and TC-V902 are the cassette deck section in LBT-V702 and LBT-V902 respectively.

photo: TC-V902

Model Name Using Similar Mechanism	TC-V701
Type Transport Mechanism Type	Deck A: TCM-170RA6 Deck B: TCM-170RB19

SPECIFICATIONS

Cassette deck

Recording system	4-track 2-channel stereo
Frequency resphonse	DOLBY NR OFF With type IV cassette (Sony METAL-ES) 30Hz to 15kHz (± 3dB) With type II cassette (Sony UX-S) 30Hz to 14kHz (± 3dB) With type I cassette (Sony HF-S) 30Hz to 13kHz (± 3dB)
Wow and flutter	± 0.2% (DIN)
Power consumption	25W
AC outlet	1 unswitched, 100W max.
Weight	Approx. 4.5kg
Dimensions	Approx. 355 X 130 X 310mm (w/h/d, including projections)

Design and specifications subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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STEREO CASSETTE DECK

SONY®

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SERVICING NOTES

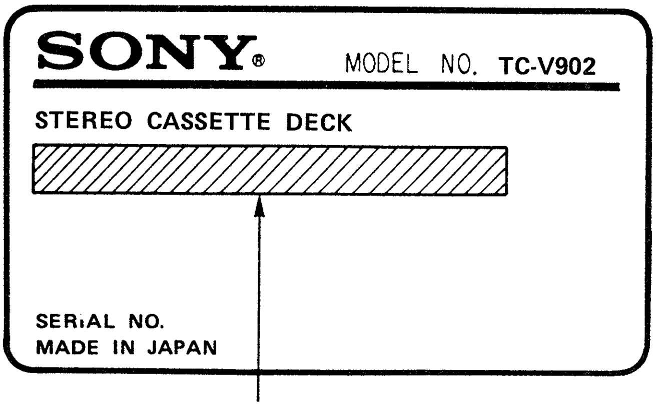
- **Power Supply (TC-V702)**
  On servicing, connect CN510 (SYSTEM CONTROL 2) to the system amplifier TA-V701.

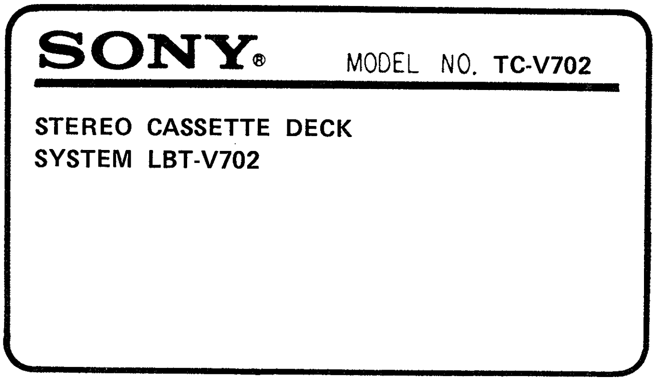
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

—Specification Label—

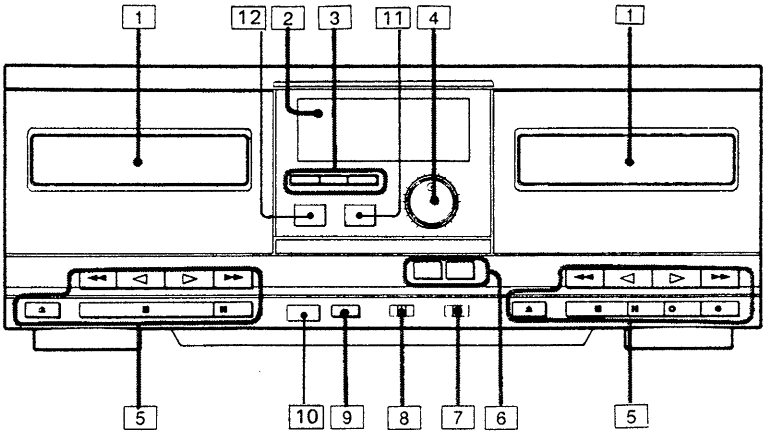




AEP, West Germany, Italian Model:	AC:	220V~50/60Hz
UK Model:	AC:	240V~50/60Hz
E, Saudi Arabia Model:	AC:	120/220/240V~50/60Hz 26W

SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS



1 Cassette holders
2 Display window
3 COUNTER buttons
4 REC (recording) LEVEL control
5 Tape operation buttons
  ◀◀ Leftward fast winding/AMS*
  ▶▶ Rightward fast winding/AMS*
  ◀ Reverse play
  ▶ Forward play
  ⏏ Ejection
  ■ Stop
  ❚❚ Pause
  ○ Record muting (deck B only)
  ● Recording (deck B only)
6 SYNCHRO (synchronized) DUBBING buttons
7 DOLBY switch
8 DIRECTION MODE switch
9 BLANK SKIP button
10 Power switch (TC-V902)
11 FADER button (TC-V902)
12 SAF (Sound Auto Focus) button (TC-V902)

* AMS is the abbreviation for Automatic Music Sensor.

SECTION 2
ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

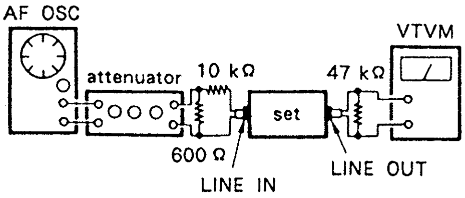
Torque	Torque Meter	Meter Reading
FWD	CQ-102C	30 to 60 g • cm (0.42 to 0.83 oz • inch)
FWD Back Tension	CQ-102C	1 to 5 g • cm (0.014 to 0.06 oz • inch)
REV	CQ-102RC	30 to 60 g • cm (0.42 to 0.83 oz • inch)
REV Back Tension	CQ-102RC	1 to 5 g • cm (0.014 to 0.06 oz • inch)
FF, REW	CQ-201B	100 to 170 g • cm (1.4 to 2.36 oz • inch)

2-2. ELECTRICAL ADJUSTMENTS

Note : The adjustment should be performed in the order given in the service manual.
The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
- Standard Record :
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

—Record Mode—



• Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (−10 dB)

• Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (−5 dB)

• Test tape

Type	Signal	User for
P-4-A100	10 kHz, −10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	PB LEVEL Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

• Test Mode

The following function operates by test mode when power switch is on position after making pin 34 of IC801 low level by connecting TP801 to ground with jumper wire while power is off position.

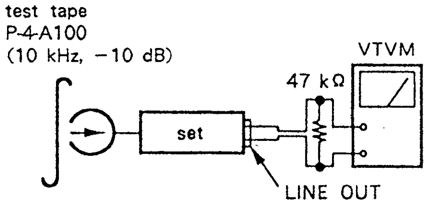
1. Source monitor
   Release the line mute while recording.
2. High speed playback
   On playback, while pressing HIGH SPEED(DUBBING) button, high speed playback operates. press again, tape speed become normal.
3. RECORD memory
   Tape counter resets zero position at record start point.

Record/Playback Head Azimuth Adjustment

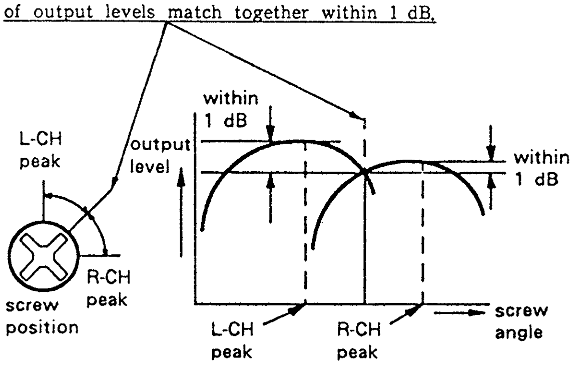
DECK A DECK B

Procedure :

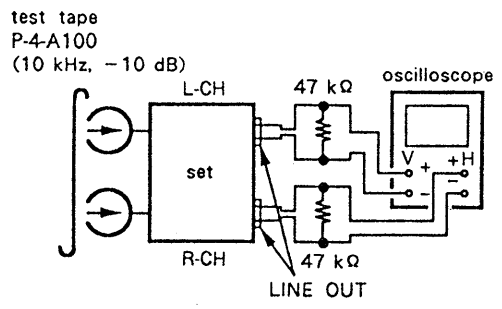
1. Mode : FWD playback

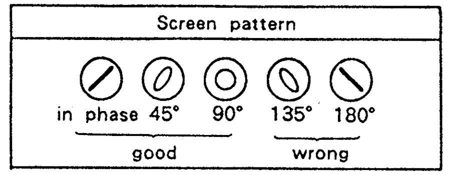


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



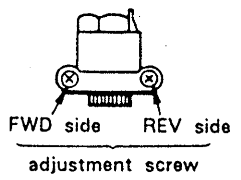
3. Phase Check
Mode : playback


test tape
P-4-A100
(10 kHz, −10 dB)
L-CH
47 kΩ
oscilloscope
set
V
+
+H
−
R-CH
47 kΩ
LINE OUT


Screen pattern
in phase 45°
90°
135°
180°
good
wrong

4. Set in the REV mode and repect the step 1 − 3.
5. After the adjustment, lock the screws with locking compound.

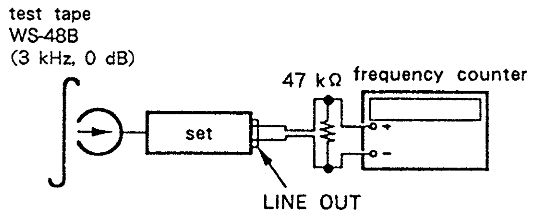
Adjustment Location : record／playback head


FWD side
REV side
adjustment screw

Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment.

Procedure :
Mode : FWD playback


test tape
WS-48B
(3 kHz, 0 dB)
47 kΩ
frequency counter
set
LINE OUT

[High Speed Adjustment]
1. Short-circuit TP801.
2. Put the set to FWD playback state.
3. Press and keep on pressing HIGH SPEED DUNNING switcg (S820 on FL board).
4. On this time, adjust with the semi-fixed variable resistors (H) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.
5. After adjustment, release the short on TP801.

[Normal Speed Adjustment]
1. Put the set to FWD playback state.
2. On this time, adjust with the semi-fixed variable resistors (L) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.

Adjustment Limits :

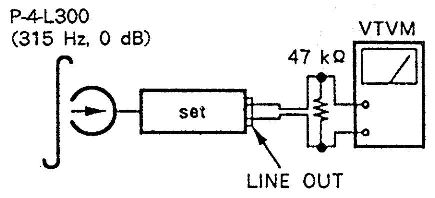
Speed	Frequency Counter
high	6.000 ±20 Hz
normal	3.000 ±10 Hz

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between Deck A and Deck B the beginning of the tape should be within 1.5%.

Adjustment Location :
Deck A : motor (M901A) rear side
Deck B : motor (M901B) rear side

Playback Level Adjustment DECK A DECK B

Procedure :
Mode : playback

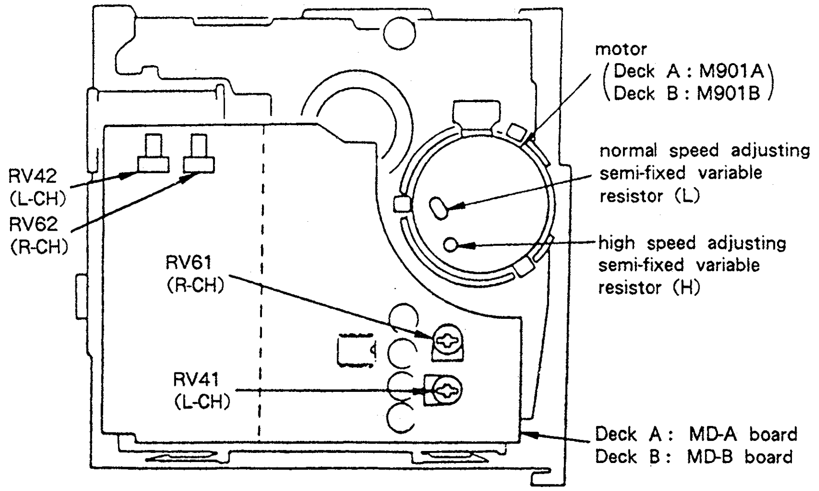

P-4-L300
(315 Hz, 0 dB)
VTVM
47 kΩ
set
LINE OUT

Adjust Deck A : RV41A (L-CH), RV61A (R-CH) and Deck B : RV41B (L-CH), RV61B (R-CH) so that the VTVM reading becomes the adjustment limits below.

Adjustment Limits :
LINE OUT level : − 5 ±0.5 dB (0.42 — 0.46 V)
Level difference between channels : less than 1 dB.
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD (A), (B) board

—Adjustment Parts Location Diagram—

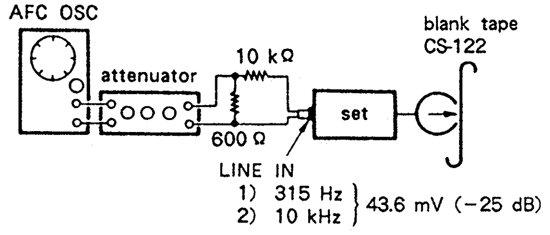

motor
(Deck A : M901A)
(Deck B : M901B)
normal speed adjusting semi-fixed variable resistor (L)
RV42 (L-CH)
RV62 (R-CH)
high speed adjusting semi-fixed variable resistor (H)
RV61 (R-CH)
RV41 (L-CH)
Deck A : MD-A board
Deck B : MD-B board

Record Bias Adjustment DECK B

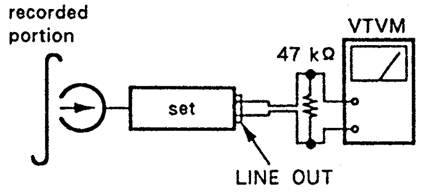
Setting :

- REC LEVEL control : standard record (See page 5.)
- Short-circuit TP801.

Procedure :
1. Mode : record


AFC OSC
attenuator
10 kΩ
600 Ω
blank tape
CS-122
set
LINE IN
1) 315 Hz
2) 10 kHz
43.6 mV (−25 dB)

2. Mode : playback


recorded
portion
VTVM
47 kΩ
set
LINE OUT

Confirm that the 10 kHz playback output is 0±0.5 dB ralative to the 315 Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

3. After adjustment, release the short on TP801.

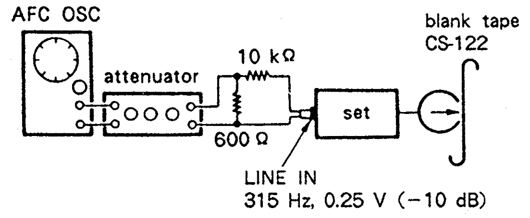
Adjustment Location : MD (B) board

Record Level Adjustment DECK B

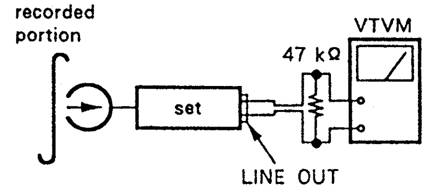
Setting :

- REC LEVEL control : standard record (See page 5.)
- Short-circuit TP801.

Procedure :
1. Mode : record


AFC OSC
attenuator
10 kΩ
600 Ω
blank tape
CS-122
set
LINE IN
315 Hz, 0.25 V (−10 dB)

2. Mode : playback


recorded
portion
VTVM
47 kΩ
set
LINE OUT

3. Play back the signal recorded in step 1.
Confirm that the signal level is within the specification below.
If necessary, adjust RV141(L-CH), RV241(R-CH) and repeat the step 1 − 3.
4. After adjustment, release the short on TP801.

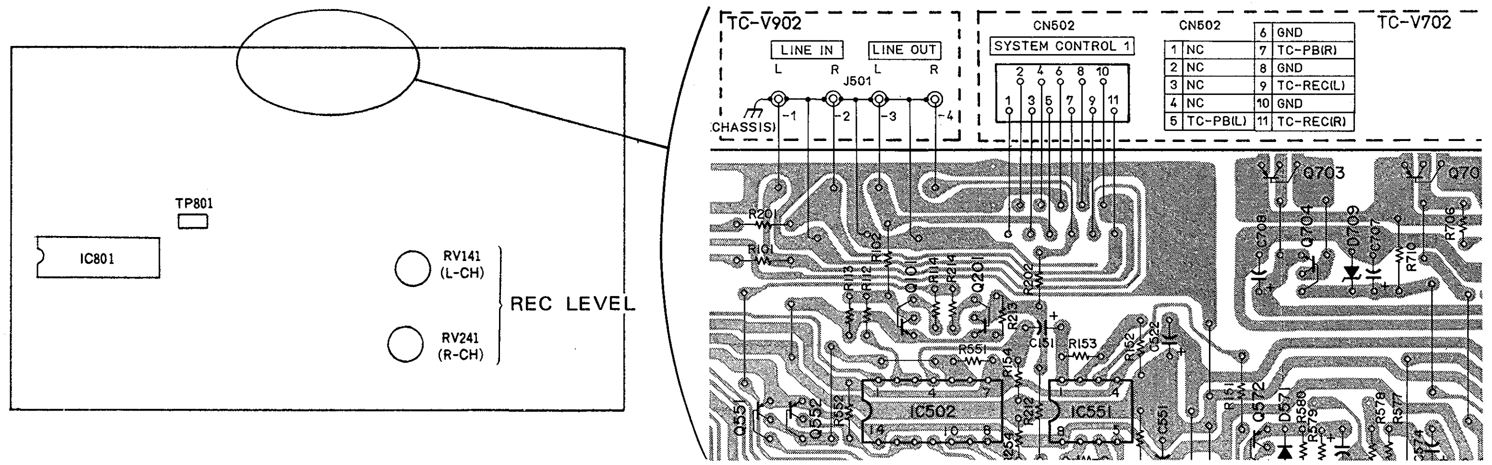
Specification : LINE OUT level : −5±0.5 dB
(0.42 — 0.46V)

Adjustment Location : main board

AUDIO SYSTEM CONTROL BOARD —component side—

- TC-V702 LINE IN/OUT (CN502)

LINE IN { L-CH: ⑨ R-CH: ⑪
LINE OUT { L-CH: ⑤ R-CH: ⑦

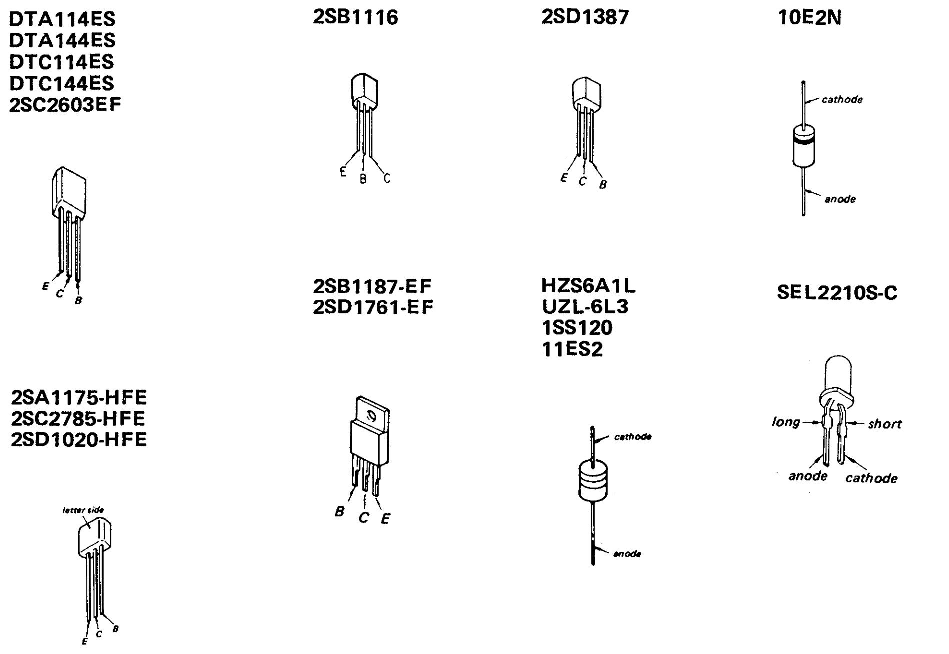

TP801
IC801
RV141 (L-CH)
RV241 (R-CH)
REC LEVEL
TC-V902
LINE IN
LINE OUT
L
R
L
R
J501
CHASSIS
−1
−2
−3
−4
CN502
SYSTEM CONTROL 1
TC-V702
R201
R101
Q703
Q704
C708
D709
IC502
IC551
R151
R153
Q551

CN502

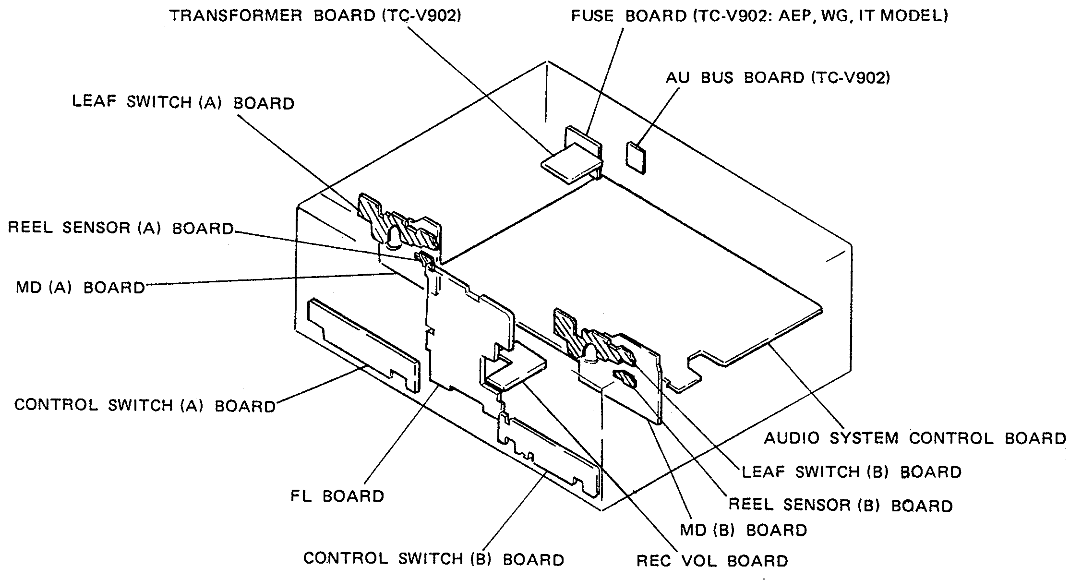
		6	GND
1	NC	7	TC-PB(R)
2	NC	8	GND
3	NC	9	TC-REC(L)
4	NC	10	GND
5	TC-PB(L)	11	TC-REC(R)

SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

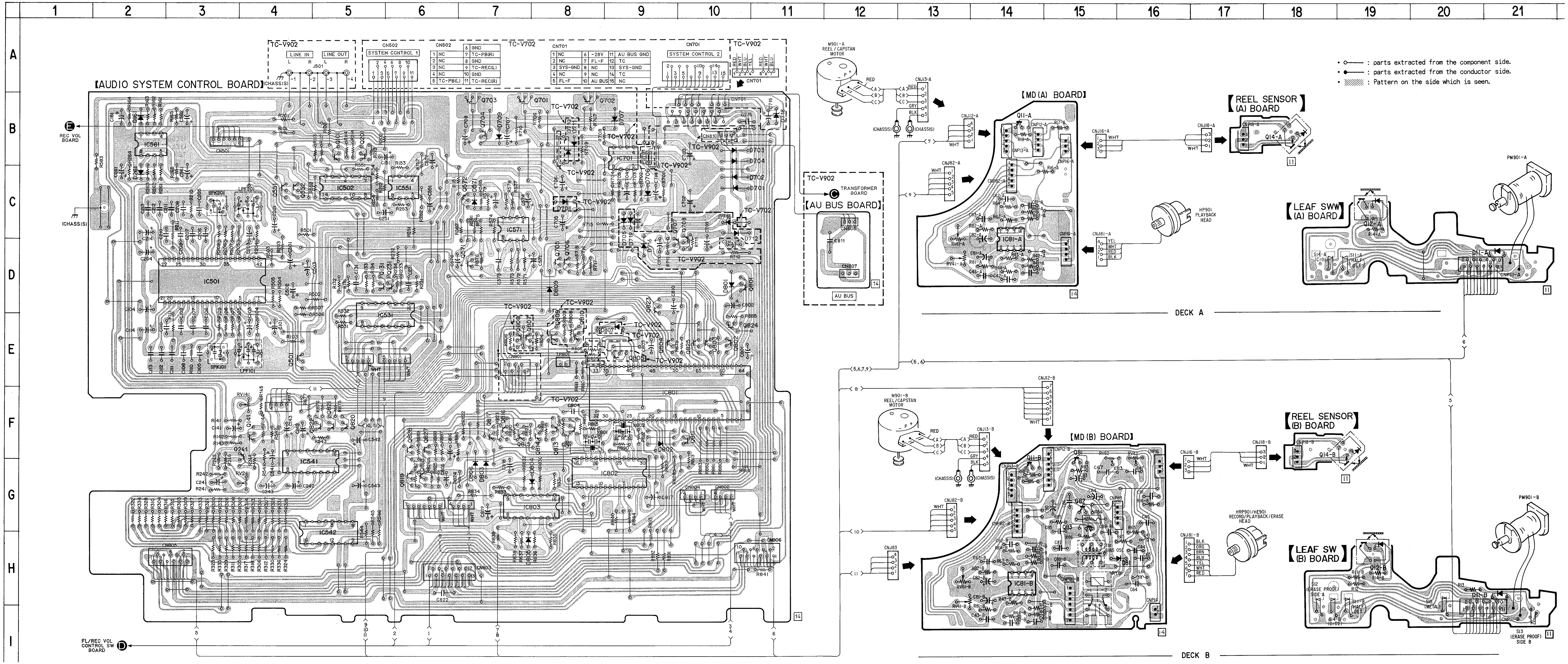

DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SC2603EF
E C B
2SB1116
E B C
2SD1387
E C B
10E2N
cathode
anode
2SB1187-EF
2SD1761-EF
B C E
HZS6A1L
UZL-6L3
1SS120
11ES2
cathode
anode
SEL2210S-C
long
short
anode
cathode
2SA1175-HFE
2SC2785-HFE
2SD1020-HFE
letter side
E C B

3-2. CIRCUIT BOARDS LOCATION


TRANSFORMER BOARD (TC-V902)
FUSE BOARD (TC-V902: AEP, WG, IT MODEL)
AU BUS BOARD (TC-V902)
LEAF SWITCH (A) BOARD
REEL SENSOR (A) BOARD
MD (A) BOARD
CONTROL SWITCH (A) BOARD
FL BOARD
CONTROL SWITCH (B) BOARD
REC VOL BOARD
MD (B) BOARD
REEL SENSOR (B) BOARD
LEAF SWITCH (B) BOARD
AUDIO SYSTEM CONTROL BOARD

3-3. PRINTED WIRING BOARDS
(Main Section)

- Refer to page 19 for semiconductor location.


【AUDIO SYSTEM CONTROL BOARD】
TC-V902
LINE IN
LINE OUT
J501
(CHASSIS)
CN502
SYSTEM CONTROL 1
TC-V702
CN701
SYSTEM CONTROL 2
REC VOL BOARD
IC561
IC502
IC551
IC501
IC531
IC571
IC701
IC541
IC542
IC801
IC802
IC803
CN803
CN804
CN805
CN806
CN807
CN808
CN810
TC-V902
TRANSFORMER BOARD
【AU BUS BOARD】
AU BUS
M901-A REEL/CAPSTAN MOTOR
【MD (A) BOARD】
Q11-A
IC81-A
HP901 PLAYBACK HEAD
【REEL SENSOR (A) BOARD】
Q14-A
【LEAF SW (A) BOARD】
Q12-A
S14-A (CrO2)
S11-A (HALF SET)
PM901-A
DECK A
M901-B REEL/CAPSTAN MOTOR
【MD (B) BOARD】
Q11-B
Q81
Q82
Q83
IC81-B
HRP901/HE901 RECORD/PLAYBACK/ERASE HEAD
【REEL SENSOR (B) BOARD】
Q14-B
【LEAF SW (B) BOARD】
Q12-B
S12 (ERASE PROOF) SIDE A
S15 (METAL)
S11-B (HALF SET)
S14-B (CrO2)
S13 (ERASE PROOF) SIDE B
PM901-B
DECK B
FL/REC VOL CONTROL SW BOARD

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ▨ : Pattern on the side which is seen.

3-4. SCHEMATIC DIAGRAM
(Audio Section)

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- **B+** : B+ lines.
- **B−** : B− lines.
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no signal conditions.
  no mark : STOP
  ( ) : NORMAL DUBBING
  (( )) : HIGH SPEED DUBBING
  ▶/● : REC
- Voltages are taken with a VOM. (input impedance 10 MΩ) Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊳ : PB(DECK A) ⊳ : PB(DECK B)
  ⊳⊳ : REC(DECK B)

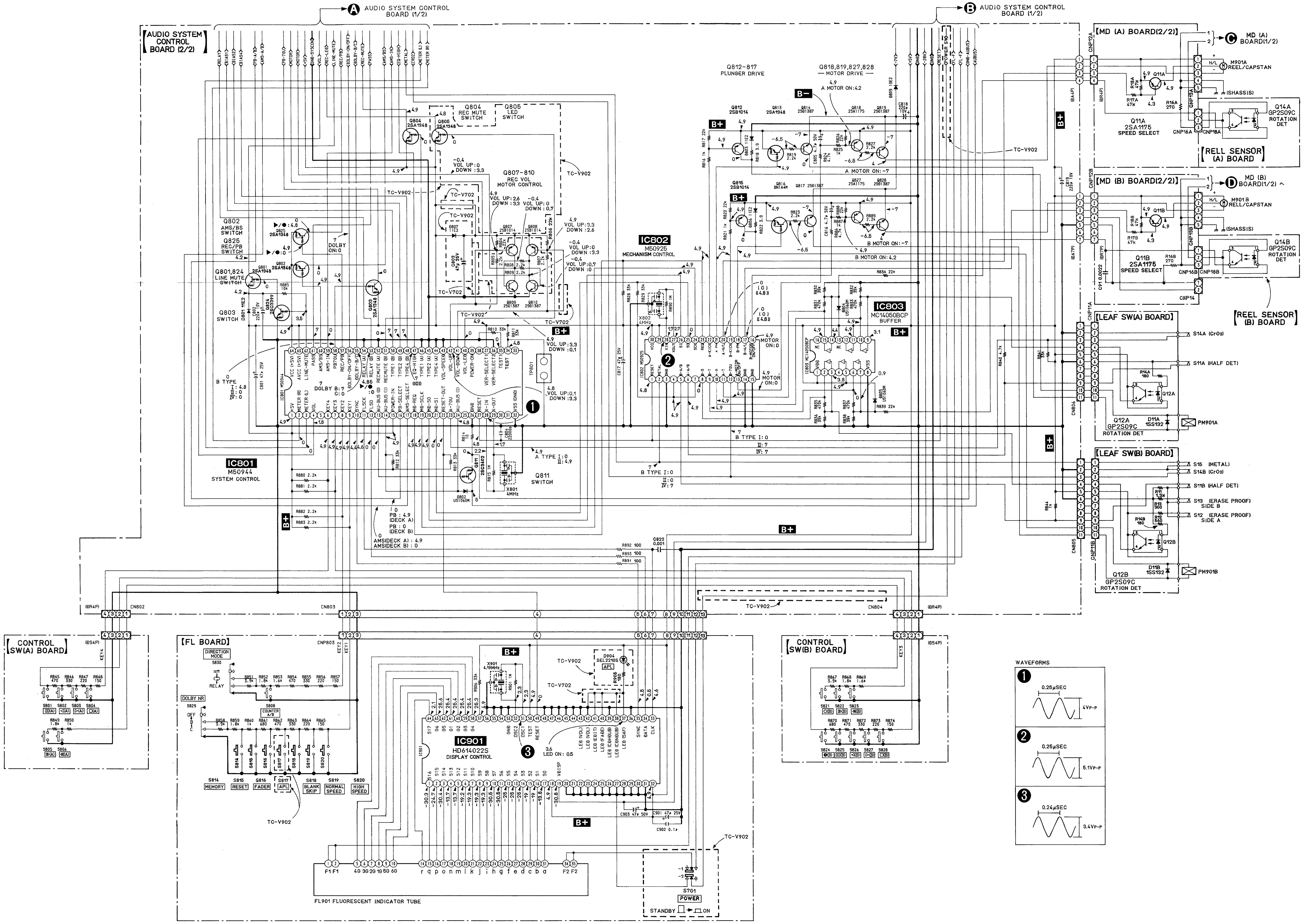
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

NO.	Voltage	NO.	Voltage	NO.	Voltage
1	7 DOLBY B:7 C:0	12	0	28	0
		13	−6.6	29	−6.8
		14	−6.8	30	−6.6
		15	0	31	0
2	7 DOLBY ON:0	16	−6.6	32	0
		17	−6.7	33	0
		18	0	34	0
3	0	19	0	35	GND
4	7	20	0	36	0
5	0	21	0	37	0
6	0	22	0	38	0
7	0	23	0	39	−7
8	GND	24	0	40	0
9	0	25	0	41	−5.8
10	0	26	−6.7	42	7 ▶/●:0
11	0	27	−6.6		

[MD (A) BOARD(1/2)]
IC81 A μPC4570C-1 PB EQ AMP
RV41A PLAYBACK LEVEL (L-CH) (DECK A)
RV61A PLAYBACK LEVEL (R-CH) (DECK A)
DECK A
HP901 PLAYBACK HEAD
[MD (B) BOARD(1/2)]
IC81 B μPC4570C-1 PB EQ AMP
RV41B PLAYBACK LEVEL (L-CH) (DECK B)
RV61B PLAYBACK LEVEL (R-CH) (DECK B)
DECK B
HRP901 RECORD/PLAYBACK HEAD
HE901 ERASE HEAD
REC BIAS
Q82,83 BIAS OSC
Q81 BIAS REG
T81 BIAS OSC
MD (A) BOARD(2/2)
MD (B) BOARD(2/2)
[REC VOL BOARD]
RV501 20k ×2 REC LEVEL
VOL MOTOR (INCLUDED IN RV501)
VOL INDICATOR (INCLUDED IN RV501)
[AUDIO SYSTEM CONTROL BOARD (1/2)]
IC551 M5218P LINE AMP
IC502 M4066 SWITCH
Q551,552 SWITCH
Q101,201 LINE MUTING
IC561 RC4558P METER AMP
IC501 CX20187 DOLBY NR
IC531 MC14053BCP SWITCH
Q131,231 SWITCH
Q501 SWITCH
RV141 REC LEVEL (L-CH) (DECK B)
RV241 REC LEVEL (R-CH) (DECK B)
Q141,241 REC MUTING
IC541 CXA1198AP REC EQ
Q820-822 BIAS SWITCH
Q823 RELAY DRIVE
Q571 AMS SWITCH
IC571 RC4558P AMS AMP
Q572 AMS AMP
IC542 MC14051BCP REC EQ SWITCH
AUDIO SYSTEM CONTROL BOARD(2/2)
IC701 RC4558P POWER
Q701 +7V REG
Q702 −7V REG
Q703,704 +6V REG
Q705,706 RESET
Q707,708 −28V REG
TC-V702
SYSTEM CONTROL 1
SYSTEM CONTROL 2
TC-V902
J501 LINE IN LINE OUT
[TRANSFORMER BOARD]
T901 POWER TRANSFORMER
UK MODEL
AEP,IT MODEL
[FUSE BOARD]
E, Saudi Arabia MODEL
VS901 VOLTAGE SELECTOR
CP901 AC OUTLET UNSWITCHED 100W MAX
AC IN
* NOT REPLACEABLE:BULT IN TRANSFORMER
[AU BUS BOARD]
CN807 AU BUS

3-5. SCHEMATIC DIAGRAM
(System Control Section)

- Refer to page 14 for note.

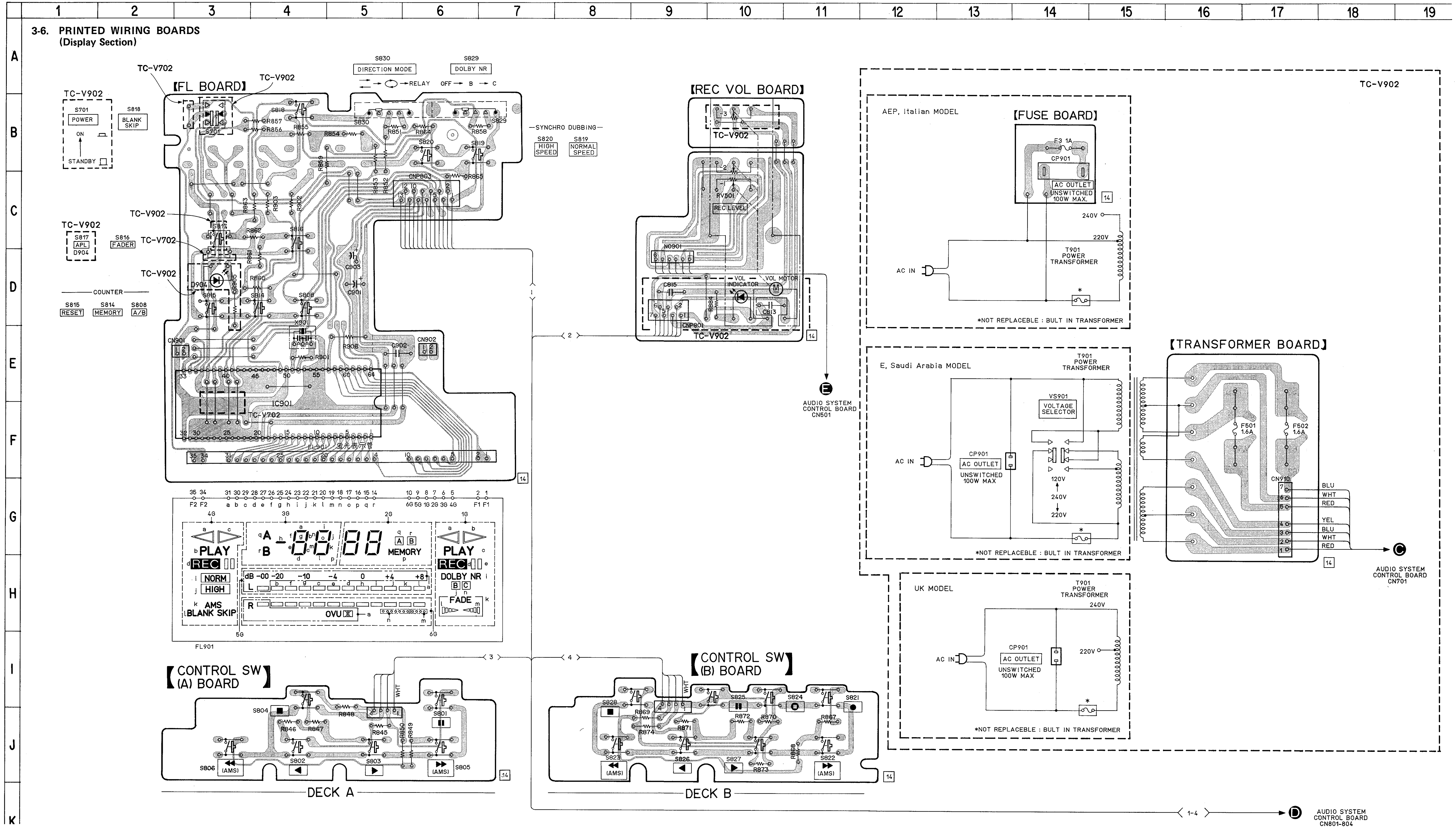


A AUDIO SYSTEM CONTROL BOARD (1/2)
B AUDIO SYSTEM CONTROL BOARD (1/2)
AUDIO SYSTEM CONTROL BOARD (2/2)
Q804 REC MUTE SWITCH
Q805 LED SWITCH
Q807-810 REC VOL MOTOR CONTROL
Q802 AMS/BS SWITCH
Q825 REC/PB SWITCH
Q801,824 LINE MUTE SWITCH
Q803 SWITCH
IC801 M50944 SYSTEM CONTROL
IC802 M50925 MECHANISM CONTROL
IC803 MC14050BCP BUFFER
Q811 SWITCH
X801 4MHz
Q812-817 PLUNGER DRIVE
Q818,819,827,828 MOTOR DRIVE
A MOTOR ON:4.2
A MOTOR ON:-7
B MOTOR ON:-7
B MOTOR ON:4.2
B+
B−
TC-V902
TC-V702
MD (A) BOARD(2/2)
C MD (A) BOARD(1/2)
M901A REEL/CAPSTAN
Q11A 2SA1175 SPEED SELECT
Q14A GP2S09C ROTATION DET
RELL SENSOR (A) BOARD
MD (B) BOARD(2/2)
D MD (B) BOARD(1/2)
M901B RELL/CAPSTAN
Q11B 2SA1175 SPEED SELECT
Q14B GP2S09C ROTATION DET
REEL SENSOR (B) BOARD
LEAF SW(A) BOARD
S14A (CrO2)
S11A (HALF DET)
Q12A GP2S09C ROTATION DET
D11A 1SS132
PM901A
LEAF SW(B) BOARD
S15 (METAL)
S14B (CrO2)
S11B (HALF DET)
S13 (ERASE PROOF) SIDE B
S12 (ERASE PROOF) SIDE A
Q12B GP2S09C ROTATION DET
D11B 1SS132
PM901B
CN802
CN803
CN804
CN805
CONTROL SW(A) BOARD
FL BOARD
IC901 HD614022S DISPLAY CONTROL
FL901 FLUORESCENT INDICATOR TUBE
S701 POWER
STANDBY ON
S814 MEMORY
S815 RESET
S816 FADER
S817 APL
S818 BLANK SKIP
S819 NORMAL SPEED
S820 HIGH SPEED
DIRECTION MODE
DOLBY NR
CONTROL SW(B) BOARD
WAVEFORMS
① 0.26μSEC 4Vp-p
② 0.26μSEC 5.1Vp-p
③ 0.24μSEC 3.4Vp-p

- **Semiconductor Location (Main Section)**

Ref. Mo.	Location	Ref. No.	Location
D11-A	D-21	Q14-A	B-19
D11-B	H-21	Q14-B	H-19
D81	H-16	Q81	F-15
D161	B-2	Q82	G-15
D261	C-2	Q83	G-15
D571	C-7	Q101	C-5
D701	C-11	Q131	E-6
D702	C-11	Q141	G-4
D703	C-11	Q201	C-6
D704	C-11	Q231	E-6
D705	D-10	Q241	G-4
D706	C-10	Q501	F-5
D707	B-10	Q551	C-4
D708	C-9	Q552	C-5
D709	B-8	Q571	D-7
D710	B-8	Q572	C-7
D711	B-8	Q701	B-8
D712	D-11	Q702	B-9
D715	D-11	Q703	B-7
D716	D-10	Q704	B-8
D718	B-12	Q705	D-9
D719	D-10	Q706	D-9
D801	E-11	Q707	D-10
D802	G-10	Q708	D-11
D803	G-8	Q801	E-11
D804	H-8	Q802	F-11
D805	H-8	Q803	F-11
D806	G-7	Q804	F-10
D807	E-9	Q805	F-10
D809	E-9	Q807	E-8
		Q808	E-8
IC81-A	C-14	Q809	E-9
IC81-B	H-14	Q810	E-9
IC501	E-3	Q811	G-11
IC502	C-5	Q812	G-9
IC531	E-6	Q813	G-9
IC541	G-5	Q814	G-8
IC542	H-5	Q815	G-8
IC551	C-6	Q816	G-8
IC561	B-2	Q817	G-8
IC571	D-8	Q818	G-7
IC701	C-9	Q819	H-6
IC801	F-10	Q820	G-5
IC802	H-9	Q821	G-5
IC803	H-8	Q822	G-5
		Q823	E-10
Q11-A	B-14	Q824	E-11
Q11-B	G-14	Q825	F-11
Q12-A	C-19	Q827	G-7
Q12-B	H-19	Q828	G-6

3-6. PRINTED WIRING BOARDS
(Display Section)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K
【FL BOARD】
TC-V702
TC-V902
S701 POWER
ON
STANDBY
S818 BLANK SKIP
S830 DIRECTION MODE
RELAY
S829 DOLBY NR
OFF → B → C
—SYNCHRO DUBBING—
S820 HIGH SPEED
S819 NORMAL SPEED
S817 APL D904
S816 FADER
—COUNTER—
S815 RESET
S814 MEMORY
S808 A/B
CN901
CN902
CNP803
IC901
X901
FL901
PLAY
REC
NORM
HIGH
AMS
BLANK SKIP
MEMORY
DOLBY NR
FADE
OVU
【REC VOL BOARD】
RV501 REC LEVEL
VOL INDICATOR
VOL MOTOR
CNP801
AUDIO SYSTEM CONTROL BOARD CN501
AEP, Italian MODEL
【FUSE BOARD】
F3 1A
CP901
AC OUTLET
UNSWITCHED 100W MAX.
240V
220V
T901 POWER TRANSFORMER
AC IN
*NOT REPLACEBLE : BULT IN TRANSFORMER
E, Saudi Arabia MODEL
VS901 VOLTAGE SELECTOR
120V
UK MODEL
【TRANSFORMER BOARD】
F601 1.6A
F602 1.6A
CN910
BLU WHT RED YEL BLU WHT RED
AUDIO SYSTEM CONTROL BOARD CN701
【CONTROL SW (A) BOARD】
S804 S801 S806 (AMS) S802 S903 S805 (AMS)
DECK A
【CONTROL SW (B) BOARD】
S828 S825 S824 S821 S823 (AMS) S826 S827 S822 (AMS)
DECK B
AUDIO SYSTEM CONTROL BOARD CN801-804

- **Semiconductor Location (Display Section)**

Ref. No.	Location
D904	D-3
IC901	E-3

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ▨ : Pattern on the side which is seen.

3-7. IC PIN FUNCTIONS

● IC801 SYSTEM CONTROLLER (M50944)

No.	SIGNAL	I/O	FUNCTION
1	Vref		+5V
2	METER R	I	Meter display signal (Rch) input
3	METER L	I	Meter display signal (Lch) input
4	VOL	I	Volume position detect
5	——		
6	KEY 4	I	KEY input (analog)
7	KEY 3	I	KEY input (analog)
8	KEY 2	I	KEY input (analog)
9	KEY 1	I	KEY input (analog)
10	SYNC	0	Synchronization output for display data
11	FLSCK	0	Clock signal for display data
12	FLSO	0	Display data output
13	AU-BUS	0	AUDIO BUS output
14	AU-BUS	I	AUDIO BUS input
15	POWER IN	I	Power down detect
16	PB SEL	0	PB signal select L: DECK B, H: DECK A
17	AMS SEL	0	AMS signal select L: DECK B, H: DECK A
18	MD-REQ	I	Data request from IC802 (MECHANISM CONTROLLER)
19	MD-SCLK	0	Clock signal for serial data
20	MD-SO	0	Serial data output to IC802
21	MD-SI	I	Serial data input from IC802
22	RESET OUT	0	Reset signal output to IC901
23	A-70μ	I	DECK A Cr02 switch input L: TYPE Ⅰ, H: TYPE Ⅱ
24	AU-BUS	I	AUDIO BUS input
25	——		
26	Vss		GND
27	$\overline{\text{RESET}}$	I	Reset signal input
28	XIN	I	Oscillation signal input
29	XOUT	0	Oscillation signal output
30	——		
31	——		
32	Vss		GND

No.	Signal	I/O	FUNCTION
33	——		
34	TEST	I	L: TEST mode, H: NORMAL
35	TEST 1	I	Normally L
36	VER SEL 2	I	Normally L
37	VER SEL 1	I	Normally H
38	——		
39	——		
40	VOL LED	0	L: LIGHT, H: OFF
41	VOL DOWN	0	L: DOWN
42	VOL UP	0	L: UP
43	VOL SPEED	0	L: LOW, H: HIGH
44	TYPE Ⅳ (A)	0	DECK A L: ON (Ⅳ), H: OFF
45	TYPE Ⅱ (A)	0	DECK A L: ON (Ⅱ), H: OFF
46	TYPE Ⅰ (A)	0	DECK A L: ON (Ⅰ), H: OFF
47	EQ HIGH	0	L: HIGH SPEED, H: NORMAL
48	TYPE Ⅳ (B)	0	DECK B L: ON (Ⅳ), H: OFF
49	TYPE Ⅱ (B)	0	DECK B L: ON (Ⅱ), H: OFF
50	TYPE Ⅰ (B)	0	DECK B L: ON (Ⅰ), H: OFF
51	$\overline{\text{REC MUTE}}$ (B)	0	DECK B L: MUTE, H: OFF
52	$\overline{\text{REC MUTE}}$ (A)	0	DECK A L: MUTE, H: OFF
53	RELAY (B)	0	DECK B L:ON (REC), H:OFF (PB)
54	RELAY (A)	0	DECK A L:ON (REC), H:OFF (PB)
55	DOLBY B/C	0	L: C, H: B
56	DOLBY ON/OFF	0	L: ON, H: OFF
57	$\overline{\text{REC}}$/PB	0	L: REC, H: PB
58	PB 70μ	0	Play back equalizer select L: 70μ, H: 120μ
59	$\overline{\text{AMS IN}}$	I	AMS signal input
60	$\overline{\text{AMS}}$/BS	0	AMS/BS amp select L: AMS, H: BS
61	PASS	0	Pass amp select L: PASS, H: LINE
62	$\overline{\text{LINE MUTE}}$	0	L: MUTING
63	AVcc		+5V
64	Vcc		+5V

● IC803 MECHANISM CONTROLLER (M50925)

No.	SIGNAL	I/O	FUNCTION
1	$\overline{\text{RESET}}$	I	Reset signal input
2	METAL	I	Deck B METAL switch input H: METAL, L: OTHER TYPE
3	AVss		GND
4	Vref		+5V
5	B A/D	I	Deck B leaf switch input (analog)
6	A A/D	I	Deck A leaf switch input (analog)
7	A V_{DD}		+5V
8	B-S	I	Deck B supply reel rotation detect
9	B-T	I	Deck B take up reel rotation detect
10	A-S	I	Deck A supply reel rotation detect
11	A-T	I	Deck A take up reel rotation detect
12	B-70μ	I	Deck B CrO_2 switch input L: TYPE Ⅰ. H: TYPE Ⅱ
13	A-$\overline{\text{ON}}$/OFF	0	Deck A capstan motor ON/OFF L: ON, H: OFF
14	CNVSS		GND
15	Vss		GND

No.	SIGNAL	I/O	FUNCTION
16	B-$\overline{\text{ON}}$/OFF	0	Deck B capstan motor ON/OFF
17	B-H/L	0	Deck B capstan motor high/ normal speed select H: High, L: normal
18	B-PM	0	Deck B solenoid hold
19	B-KICK	0	Deck B solenoid kick
20	A-H/L	0	Deck A capstan motor high/ normal speed select H: High, L: notmal
21	A-PM	0	Deck A solenoid hold
22	A-KICK	0	Deck A solenoid kick
23	REQ	0	Data request to IC801
24	SCLK	I	Clock signal for serial data
25	SI	I	Serial data input from IC801
26	SO	0	Serial data output to IC801
27	X OUT	0	Oscillation signal output
28	X IN	I	Oscillation signal input
29	CNTR	I	Normally H
30	V_{DD}		+5V

SECTION 4
EXPLODED VIEWS

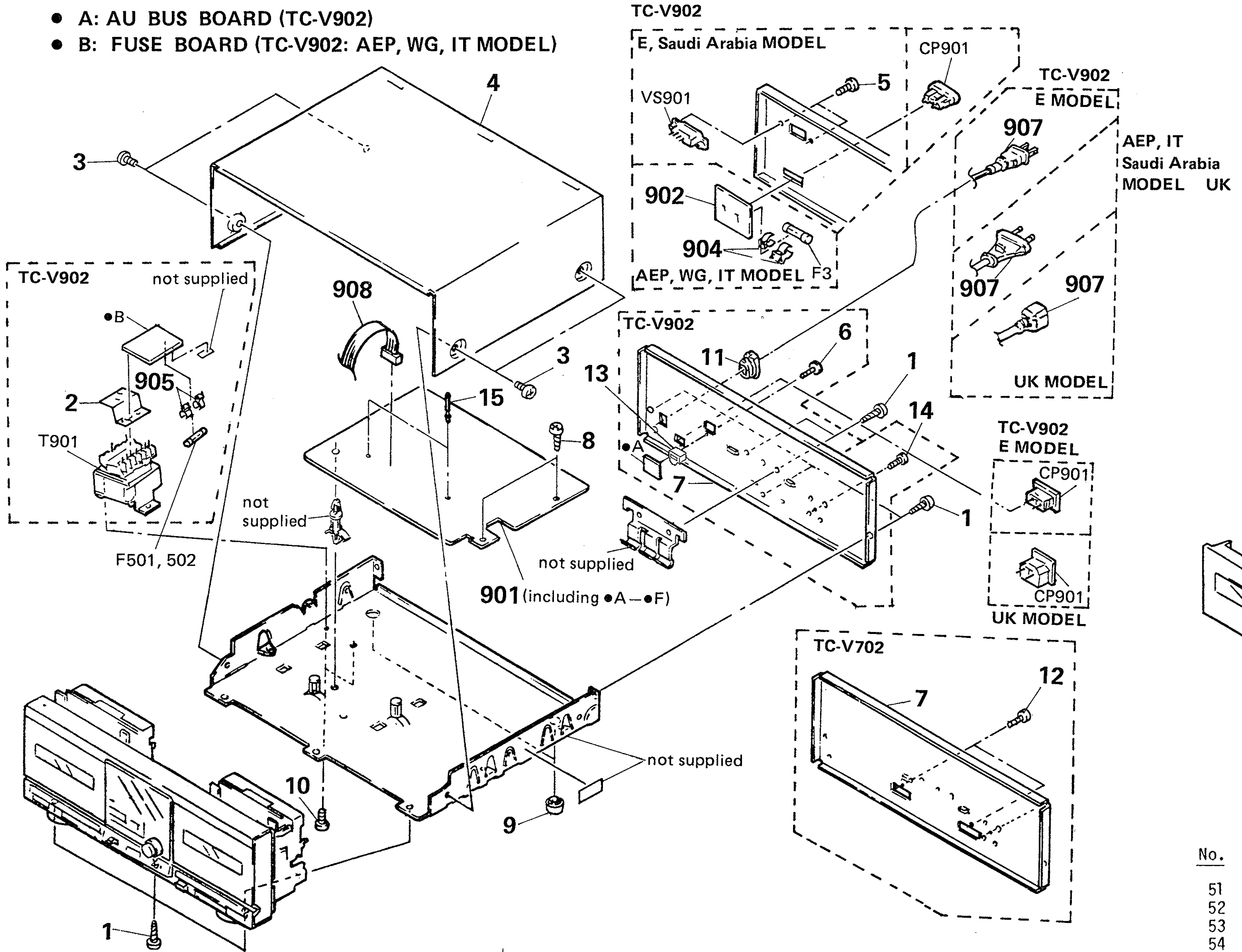
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

(1) CHASSIS SECTION

- A: AU BUS BOARD (TC-V902)
- B: FUSE BOARD (TC-V902: AEP, WG, IT MODEL)

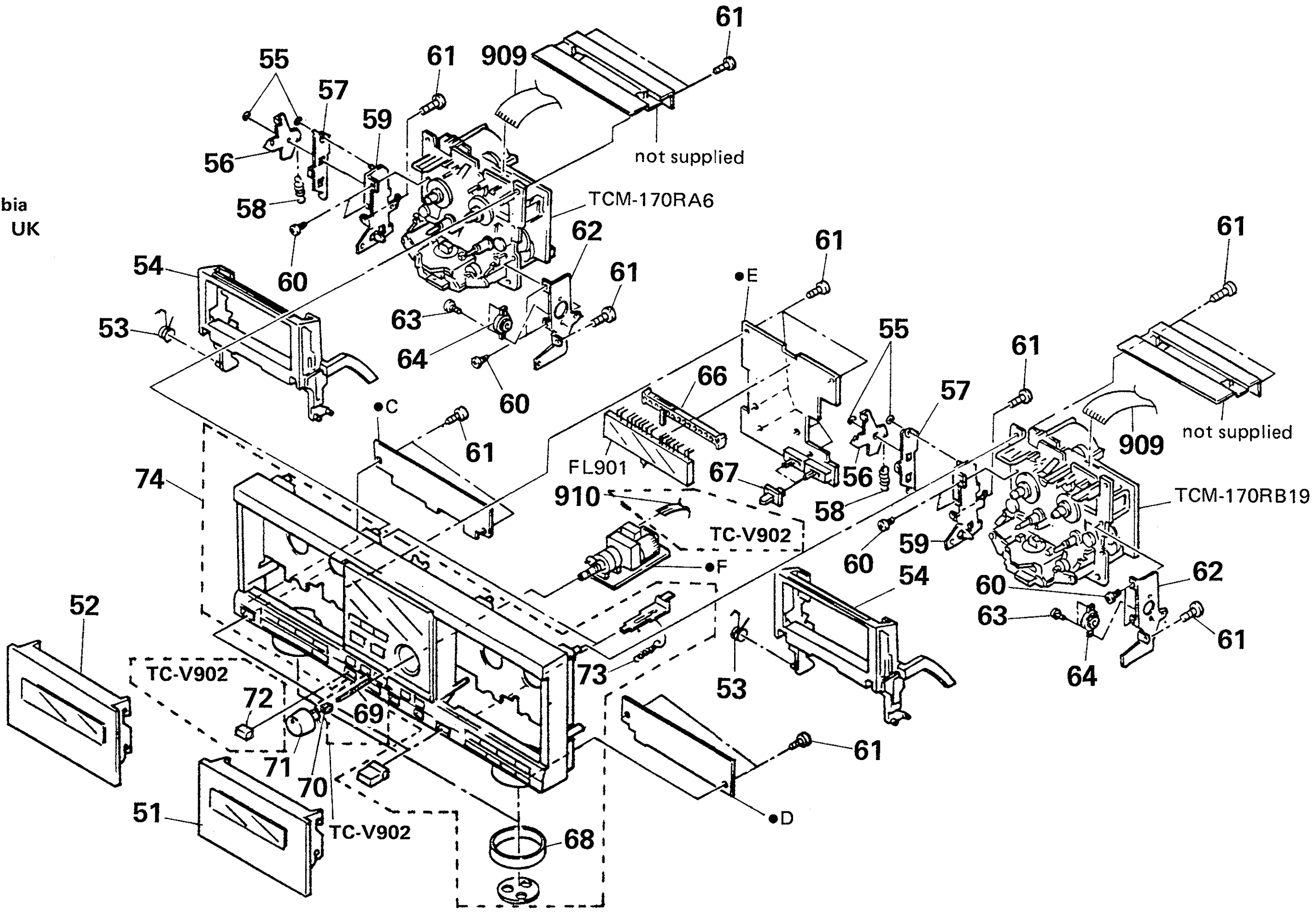

TC-V902
E, Saudi Arabia MODEL
CP901
VS901
5
TC-V902
E MODEL
907
AEP, IT
Saudi Arabia
MODEL UK
902
904
F3
AEP, WG, IT MODEL
907
907
UK MODEL
4
3
TC-V902
not supplied
•B
905
2
T901
908
15
3
8
TC-V902
6
11
13
1
14
•A
7
1
TC-V902
E MODEL
CP901
CP901
UK MODEL
not supplied
F501, 502
not supplied
901 (including •A – •F)
not supplied
TC-V702
7
12
10
9
1

No.	Part No.	Description	Remarks
1	7-682-547-09	SCREW +BVTT 3X6 (S)	
2	*3-337-136-01	(V902)...COVER, TRANSFORMER SAFETY	
3	3-704-366-01	SCREW (CASE) (M3X8)	
4	4-919-379-41	CASE	
5	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
6	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
7	*3-343-685-61	(V702:EXCEPT WG)...PANEL, BACK	
	*3-343-685-71	(V702:WG)..........PANEL, BACK	
	*3-350-163-01	(V902:AEP,WG,IT)...PANEL, BACK	
	*3-350-163-11	(V902:UK)..........PANEL, BACK	
	*3-350-163-21	(V902:E)...........PANEL, BACK	
	*3-350-163-31	(V902:EA)..........PANEL, BACK	
8	7-682-547-04	SCREW +BVTT 3X6 (S)	
9	*4-934-883-01	FOOT	
10	7-682-548-04	SCREW +BVTT 3X8 (S)	
11	*3-703-244-00	(V902:EXCEPT E)...BUSHING (2104), CORD	
	3-703-571-11	(V902:E).......BUSHING (S)(4516), CORD	
12	7-685-646-79	(V702)...SCREW +BVTT 3X8 TYPE-2 NS	
13	*3-322-819-01	(V902)...HOLDER, CONNECTOR	
14	7-621-849-00	SCREW, TAPPING	
15	*3-350-161-01	HOLDER (FL)	

No.	Part No.	Description	Remarks
901	*A-2006-275-A	(V902)...MOUNTED PCB, AUDIO SYSCON	
	*A-2026-461-A	(V702)...MOUNTED PCB, AUDIO SYSCON	
902	*1-626-652-11	(V902:AEP,WG,IT)...PC BOARD, FUSE	
904	⚠.1-533-162-00	(V902:AEP,WG,IT)...HOLDER, FUSE	
905	⚠.1-533-213-31	(V902)...HOLDER, FUSE	
907	⚠.1-551-188-XX	(V902:E)...........CORD, POWER	
	⚠.1-555-750-00	(V902:AEP,WG,IT)...CORD, POWER	
	⚠.1-555-795-00	(V902:EA)....CORD, POWER, EULO PLUG	
	⚠.1-556-562-00	(V902:UK)..........CORD, POWER	
908	1-575-215-11	WIRE, FLAT TYPE (13 CORE)	
CP901	⚠.1-526-751-00	(V902:UK).............OUTLET, AC	
CP901	⚠.1-526-794-11	(V902:AEP,WG,IT,EA)...OUTLET, AC	
CP901	⚠.1-526-882-00	(V902:E)..............OUTLET, AC	
F3	⚠.1-532-078-00	(V902:AEP,WG,IT)...FUSE, TIME-LAG	
F501	⚠.1-532-259-00	(V902).............FUSE, TIME-LAG	
F502	⚠.1-532-259-00	(V902).............FUSE, TIME-LAG	
T901	⚠.1-449-460-11	(V902:AEP,WG,IT,UK)...TRANSFORMER, POWER	
T901	⚠.1-449-461-11	(V902:E,EA)...........TRANSFORMER, POWER	

(2) FRONT PANEL SECTION

- C: CONTROL SW (A) BOARD
- D: CONTROL SW (B) BOARD
- E: FL BOARD
- F: REC VOL BOARD


61
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909
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59
not supplied
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58
TCM-170RA6
62
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61
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61
•E
53
63
64
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61
66
57
•C
61
FL901
909
not supplied
74
910
67
56
TCM-170RB19
58
TC-V902
•F
59
60
54
62
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60
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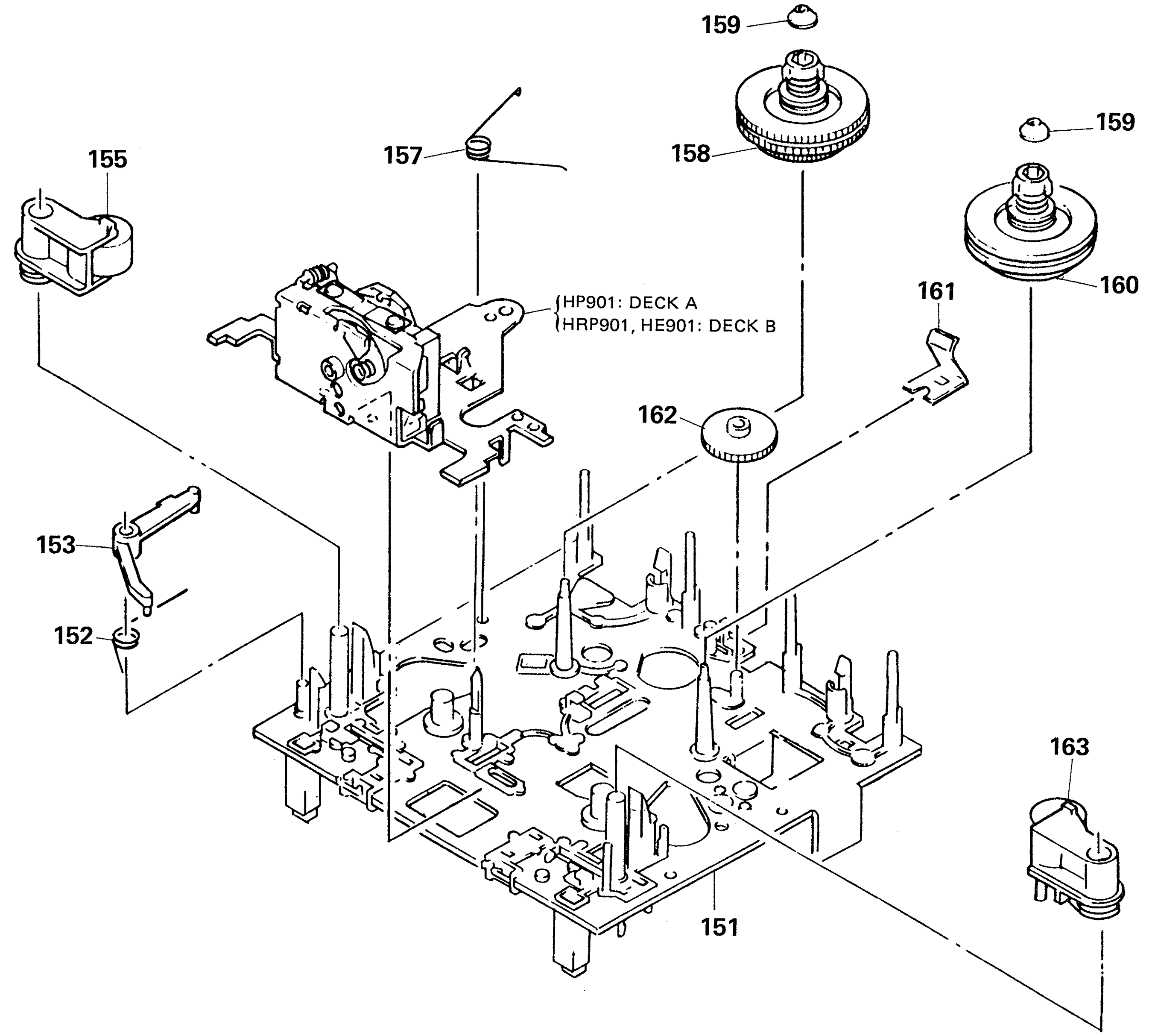
73
53
64
TC-V902
72
69
61
71
70
51
TC-V902
68
•D

No.	Part No.	Description	Remarks
51	X-4919-303-1	LID (B) ASSY, CASSETTE	
52	X-4919-302-1	LID (A) ASSY, CASSETTE	
53	3-350-162-01	SPRING, TORSION	
54	X-3332-482-1	HOLDER ASSY, CASSETTE	
55	3-558-708-21	WASHER, STOPPER	
56	*3-343-449-01	LEVER (LOCK LEVER)	
57	*3-329-997-01	LEVER (EJECT)	
58	3-329-998-01	SPRING, TENSION	
59	*X-3329-913-1	BRACKET ASSY	
60	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
61	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
62	*3-346-305-01	BRACKET (DAMPER)	
63	7-621-255-15	SCREW +PTT 2X3 (S)	
64	3-319-224-31	DAMPER, SMALL	
66	*3-350-161-01	HOLDER (FL)	

No.	Part No.	Description	Remarks
67	4-922-518-11	KNOB (TIMER)	
68	4-921-918-01	PLATE, ORNAMENTAL	
69	4-922-979-01	(V902)...INDICATOR	
70	4-922-978-01	(V902)...HOLDER (FIBER)	
71	X-4919-301-1	(V702)...KNOB (REC)	
	3-329-983-01	(V902)...KNOB (REC)	
72	4-922-903-01	(V902)...BUTTON (PW)	
73	4-885-182-11	SPRING, TENSION	
74	X-3343-641-1	(V702)...PANEL ASSY, FRONT	
	X-3343-642-1	(V902)...PANEL ASSY, FRONT	
909	1-575-214-11	WIRE, FLAT TYPE (11 CORE)	
910	1-574-723-11	(V902)...WIRE, FLAT TYPE (7 CORE)	
FL901	1-519-572-11	INDICATOR TUBE, FLUORESCENT	

(3) MECHANISM SECTION 1

TCM-170RA6 : DECK A
TCM-170RB19: DECK B


159
159
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HP901: DECK A
HRP901, HE901: DECK B
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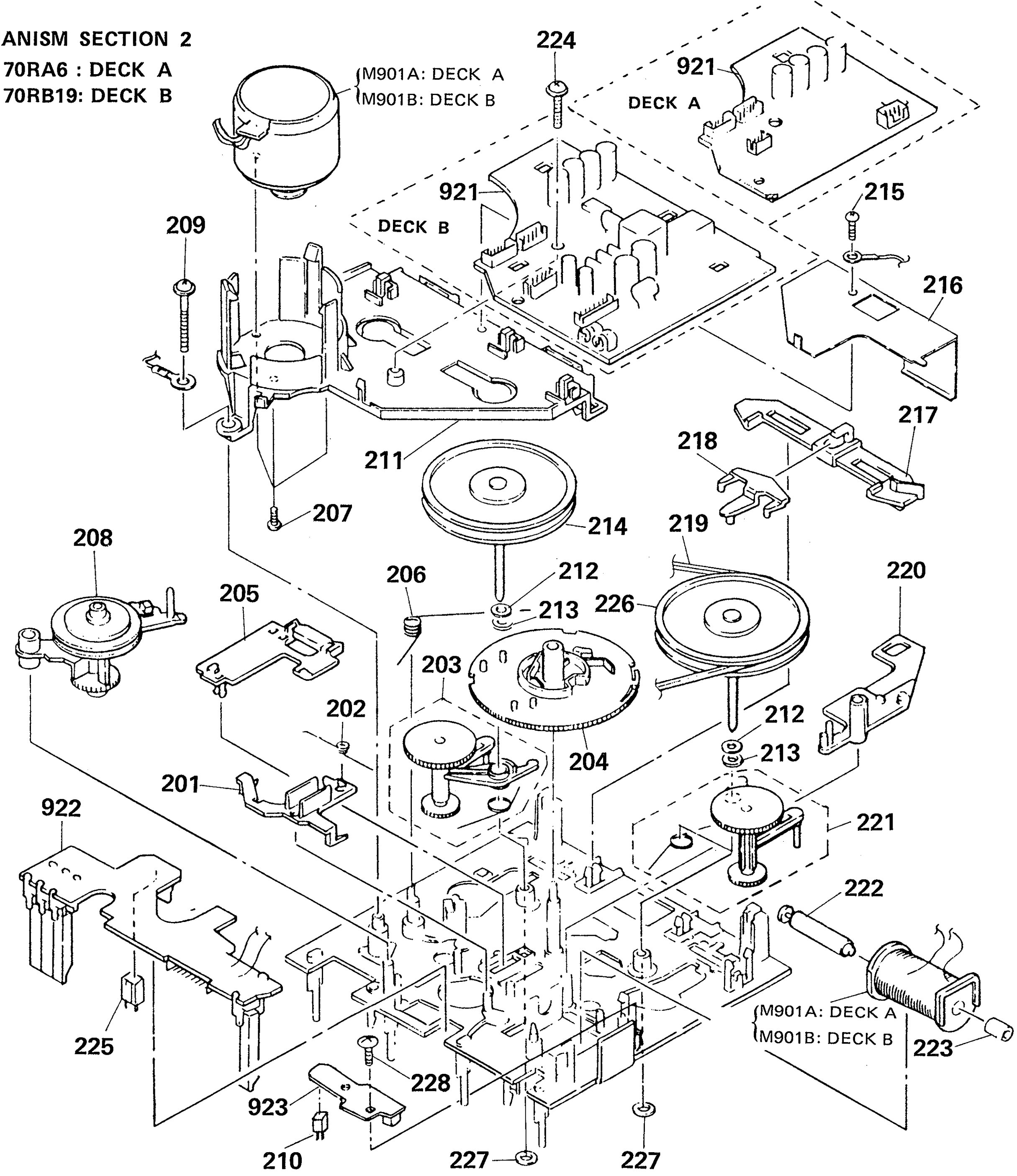
151

No.	Part No.	Description	Remarks
151	*X-3343-418-5	CHASSIS ASSY, MECHANICAL	
152	3-343-477-01	SPRING, TORSION (EJECT SAFTY)	
153	3-343-476-01	LEVER (EJECT SAFETY LEVER)	
155	X-3343-456-1	LEVER (PINCH R) ASSY	
157	3-343-401-01	SPRING, TORSION	
158	X-3343-415-1	TABEL (REV) ASSY, REEL	
159	3-343-439-01	CAP (REEL TABLE)	
160	X-3343-401-1	TABEL ASSY, REEL	
161	3-343-420-01	SPRING, LEAF	
162	3-343-411-01	GEAR (FF GEAR)	
163	X-3343-455-1	LEVER (PINCH F) ASSY	
HP901	A-2003-503-A	(DECK A)...PC BOARD ASSY, HEAD	
HRP901 HE901	A-2003-504-A	(DECK B)...CHASSIS ASSY, HEAD	

(4) MECHANISM SECTION 2

TCM-170RA6 : DECK A
TCM-170RB19: DECK B


M901A: DECK A
M901B: DECK B
224
921
DECK A
921
DECK B
215
209
216
217
218
211
207
214
219
208
206
212
220
205
213
226
203
202
212
204
213
201
221
922
222
M901A: DECK A
M901B: DECK B
225
228
223
923
210
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227

No.	Part No.	Description	Remarks
201	3-343-453-01	SLIDER (BRAKE PLATE)	
202	3-343-429-01	SPRING, TORSION	
203	X-3343-454-1	LEVER (TU-R) ASSY	
204	3-343-470-01	GEAR (CAM GEAR)	
205	3-343-461-01	SLIDER	
206	3-343-430-01	SPRING, TORSION	
207	7-627-556-28	SCREW +P 2.6X3.5	
208	X-3343-414-1	LAVER (FR ARM) ASSY	
209	3-355-801-01	SCREW (BTP 2X18)	
210	*3-343-491-01	HOLDER (S SENSOR B)	
211	*X-3343-407-1	BASE (THRUST RETAINER) ASSY	
212	4-605-835-11	WASHER (2.6), POLYSLIDER	
213	3-307-482-00	WASHER, LUMILER	
214	X-3343-416-7	FLYWHEEL (REV) COMPLETE ASSY	
215	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
216	3-343-480-01	PLATE, SHIELD	
217	3-343-457-01	SLIDER (REVERSE SLIDER)	
218	3-343-462-01	LEVER	
219	3-313-816-00	BELT (CAPSTAN BELT SQUARE)	
220	3-343-493-01	LEVER (PM LEVER)	

No.	Part No.	Description	Remarks
221	X-3343-453-1	LEVER (TU-F) ASSY	
222	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
223	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
224	3-343-404-01	SCREW (PTPWH 2X12)	
225	3-343-419-01	HOLDER (S SENSER A)	
226	X-3343-411-6	FLYWHEEL COMPLETE ASSY	
227	3-343-473-01	WASHER, NYLON	
228	7-685-103-19	+ PTPWH (2X5)	
921	*1-624-147-11	(DECK A)...PC BOARD, MD-A	
	*1-625-912-14	(DECK B)...PC BOARD, MD-B	
922	*1-632-201-11	PC BOARD, LEAF SW	
923	*1-628-656-11	PC BOARD, REEL SENSOR	
M901A	X-3343-447-1	(DECK A)...MOTOR ASSY	
M901B	X-3343-447-1	(DECK B)...MOTOR ASSY	
PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER	
PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	*A-2006-275-A	(V902)...MOUNTED PCB, AUDIO SYSCON			
	*A-2026-461-A	(V702)...MOUNTED PCB, AUDIO SYSCON			
902	*1-626-652-11	(V902:AEP,WG,IT)...PC BOARD, FUSE			
904 ⚠	.1-533-162-00	(V902:AEP,WG,IT)...HOLDER, FUSE			
905 ⚠	.1-533-213-31	(V902)...HOLDER, FUSE			
907 ⚠	.1-551-188-XX	(V902:E)...........CORD, POWER			
⚠	.1-555-750-00	(V902:AEP,WG,IT)...CORD, POWER			
⚠	.1-555-795-00	(V902:EA)....CORD, POWER, EULO PLUG			
⚠	.1-556-562-00	(V902:UK)..........CORD, POWER			
908	1-575-215-11	WIRE, FLAT TYPE (13 CORE)			
909	1-575-214-11	WIRE, FLAT TYPE (11 CORE)			
910	1-574-723-11	(V902)...WIRE, FLAT TYPE (7 CORE)			
921	*1-624-147-11	(DECK A)...PC BOARD, MD-A			
	*1-625-912-14	(DECK B)...PC BOARD, MD-B			
922	*1-632-201-11	PC BOARD, LEAF SW			
923	*1-628-656-11	PC BOARD, REEL SENSOR			
C41A	1-162-289-31	CERAMIC	390PF	10%	50V
C41B	1-110-342-11	MYLAR	390PF	5%	50V
C42A	1-136-157-00	FILM	0.022MF	5%	50V
C42B	1-136-157-00	FILM	0.022MF	5%	50V
C43A	1-124-282-00	ELECT	22MF	20%	25V
C43B	1-124-282-00	ELECT	22MF	20%	25V
C44	1-162-288-31	CERAMIC	330PF	10%	50V
C45	1-136-273-91	FILM	75PF	5%	630V
C47	1-162-209-31	CERAMIC	27PF	5%	50V
C61A	1-162-289-31	CERAMIC	390PF	10%	50V
C61B	1-110-342-11	MYLAR	390PF	5%	50V
C62A	1-136-157-00	FILM	0.022MF	5%	50V
C62B	1-136-157-00	FILM	0.022MF	5%	50V
C63A	1-124-282-00	ELECT	22MF	20%	25V
C63B	1-124-282-00	ELECT	22MF	20%	25V
C64	1-162-288-31	CERAMIC	330PF	10%	50V
C65	1-136-273-91	FILM	75PF	5%	630V
C67	1-162-209-31	CERAMIC	27PF	5%	50V
C81A	1-126-101-11	ELECT	100MF	20%	16V
C82A	1-126-101-11	ELECT	100MF	20%	16V
C81B	1-126-101-11	ELECT	100MF	20%	16V
C82B	1-126-101-11	ELECT	100MF	20%	16V
C83	1-124-791-11	ELECT	1MF	20%	50V
C84	1-124-925-11	ELECT	2.2MF	20%	50V
C85	1-130-480-00	MYLAR	0.0056MF	5%	50V
C86	1-130-476-00	MYLAR	0.0027MF	5%	50V
C87	1-130-476-00	MYLAR	0.0027MF	5%	50V
C88	1-136-562-11	FILM	0.0082MF	5%	630V

Ref.No.	Part No.	Description			
C89	1-161-494-00	CERAMIC	0.022MF		25V
C90	1-126-101-11	ELECT	100MF	20%	16V
C91	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C101	1-126-161-11	ELECT	2.2MF	20%	50V
C103	1-124-045-00	ELECT	4.7MF	20%	50V
C104	1-124-767-00	ELECT	2.2MF	20%	50V
C105	1-130-479-00	MYLAR	0.0047MF	5%	50V
C106	1-136-173-00	FILM	0.47MF	5%	50V
C107	1-136-167-00	FILM	0.15MF	5%	50V
C108	1-136-155-00	FILM	0.015MF	5%	50V
C109	1-136-169-00	FILM	0.22MF	5%	50V
C110	1-136-163-00	FILM	0.068MF	5%	50V
C111	1-136-161-00	FILM	0.047MF	5%	50V
C112	1-130-481-00	MYLAR	0.0068MF	5%	50V
C113	1-136-153-00	FILM	0.01MF	5%	50V
C114	1-124-045-00	ELECT	4.7MF	20%	50V
C131	1-136-156-00	FILM	0.018MF	5%	50V
C141	1-126-300-11	ELECT	0.47MF	20%	50V
C142	1-126-059-11	ELECT	10MF	20%	50V
C143	1-126-059-11	ELECT	10MF	20%	50V
C151	1-124-045-00	ELECT	4.7MF	20%	50V
C161	1-126-161-11	ELECT	2.2MF	20%	50V
C201	1-126-161-11	ELECT	2.2MF	20%	50V
C203	1-124-045-00	ELECT	4.7MF	20%	50V
C204	1-124-767-00	ELECT	2.2MF	20%	50V
C205	1-130-479-00	MYLAR	0.0047MF	5%	50V
C206	1-136-173-00	FILM	0.47MF	5%	50V
C207	1-136-167-00	FILM	0.15MF	5%	50V
C208	1-136-155-00	FILM	0.015MF	5%	50V
C209	1-136-169-00	FILM	0.22MF	5%	50V
C210	1-136-163-00	FILM	0.068MF	5%	50V
C211	1-136-161-00	FILM	0.047MF	5%	50V
C212	1-130-481-00	MYLAR	0.0068MF	5%	50V
C213	1-136-153-00	FILM	0.01MF	5%	50V
C214	1-124-045-00	ELECT	4.7MF	20%	50V
C231	1-136-156-00	FILM	0.018MF	5%	50V
C241	1-126-300-11	ELECT	0.47MF	20%	50V
C242	1-126-059-11	ELECT	10MF	20%	50V
C243	1-126-059-11	ELECT	10MF	20%	50V
C251	1-124-045-00	ELECT	4.7MF	20%	50V
C261	1-126-161-11	ELECT	2.2MF	20%	50V
C501	1-126-101-11	ELECT	220MF	20%	10V
C502	1-126-101-11	ELECT	220MF	20%	10V
C503	1-124-045-00	ELECT	4.7MF	20%	50V
C541	1-126-161-11	ELECT	2.2MF	20%	50V

Ref.No.	Part No.	Description			
C542	1-124-910-11	ELECT	47MF	20%	25V
C543	1-124-910-11	ELECT	47MF	20%	25V
C551	1-124-910-11	ELECT	47MF	20%	25V
C552	1-124-910-11	ELECT	47MF	20%	25V
C561	1-124-910-11	ELECT	47MF	20%	25V
C562	1-124-910-11	ELECT	47MF	20%	25V
C571	1-126-161-11	ELECT	2.2MF	20%	50V
C573	1-161-494-00	CERAMIC	0.022MF		25V
C574	1-124-045-00	ELECT	4.7MF	20%	50V
C575	1-126-161-11	ELECT	2.2MF	20%	50V
C576	1-126-161-11	ELECT	2.2MF	20%	50V
C702	1-124-887-00	ELECT	3300MF	20%	16V
C703	1-124-887-00	ELECT	3300MF	20%	16V
C704	1-124-910-11	ELECT	47MF	20%	25V
C705	1-124-360-00	ELECT	1000MF	20%	16V
C706	1-124-360-00	ELECT	1000MF	20%	16V
C707	1-126-161-11	ELECT	2.2MF	20%	50V
C708	1-124-472-11	ELECT	470MF	20%	6.3V
C709	1-124-911-11	(V902)...ELECT	220MF	20%	50V
C710	1-126-301-11	(V902)...ELECT	1MF	20%	50V
C711	1-126-059-11	ELECT	10MF	20%	50V
C713	1-124-045-00	ELECT	4.7MF	20%	50V
C714	1-124-045-00	ELECT	4.7MF	20%	50V
C715	1-126-059-11	(V902)...ELECT	10MF	20%	50V
C715	1-164-159-11	(V702)...ELECT	0.1MF		50V
C801	1-124-910-11	ELECT	47MF	20%	25V
C802	1-126-101-11	ELECT	220MF	20%	10V
C803	1-124-910-11	(V902)...ELECT	47MF	20%	25V
C804	1-164-159-11	CERAMIC	0.1MF		50V
C805	1-124-045-00	ELECT	4.7MF	20%	50V
C810	1-126-161-11	ELECT	2.2MF	20%	50V
C811	1-164-159-11	CERAMIC	0.1MF		50V
C813	1-164-159-11	CERAMIC	0.1MF		50V
C815	1-164-159-11	CERAMIC	0.1MF		50V
C816	1-124-045-00	ELECT	4.7MF	20%	50V
C817	1-124-910-11	ELECT	47MF	20%	25V
C818	1-126-101-11	ELECT	220MF	20%	10V
C819	1-126-101-11	ELECT	220MF	20%	10V
C822	1-162-294-31	CERAMIC	0.001MF	10%	50V
C901	1-124-910-11	ELECT	47MF	20%	25V
C902	1-164-159-11	CERAMIC	0.1MF		50V
C903	1-124-910-11	ELECT	47MF	20%	50V
CNP11A	1-569-061-11	SOCKET, CONNECTOR 11P			
CNP11B	1-569-061-11	SOCKET, CONNECTOR 11P			
CNP12A	*1-564-338-00	PIN, CONNECTOR 4P			
CNP12B	*1-564-341-11	PIN, CONNECTOR 7P			
CNP13A	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNP13B	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNP14	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
CNP16A	*1-564-337-00	PIN, CONNECTOR 3P			
CNP16B	*1-564-337-00	PIN, CONNECTOR 3P			
CNP18A	*1-564-496-11	PIN, CONNECTOR 3P			
CNP18B	*1-564-496-11	PIN, CONNECTOR 3P			
CNP81A	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNP81B	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			

Ref.No.	Part No.	Description
CNP82A	*1-564-339-00	PIN, CONNECTOR 5P
CNP82B	*1-564-339-61	PIN, CONNECTOR 5P
CNP83	*1-564-338-61	PIN, CONNECTOR 4P
CN501	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P
CN502	*1-566-858-41	(V702)...SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)
CN701	*1-566-859-11	(V702)...SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)
CN801	1-568-439-11	SOCKET, CONNECTOR 7P
CN802	*1-564-338-00	PIN, CONNECTOR 4P
CN803	1-568-443-11	SOCKET, CONNECTOR 13P
CN804	*1-564-338-61	PIN, CONNECTOR 4P
CN805	1-569-060-11	SOCKET, CONNECTOR 11P
CN806	1-569-060-11	SOCKET, CONNECTOR 11P
CN807	*1-565-562-11	CONNECTOR (BASE POST) 3P
CN808	*1-564-496-11	PIN, CONNECTOR 3P
CN901	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CN902	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNP801	1-568-437-11	SOCKET, CONNECTOR 7P
CNP803	1-568-444-11	SOCKET, CONNECTOR 13P
CP901	⚠1-526-751-00	(V902:UK).............OUTLET, AC
CP901	⚠1-526-794-11	(V902:AEP,WG,IT,EA)...OUTLET, AC
CP901	⚠1-526-882-00	(V902:E)..............OUTLET, AC
D11A	8-719-107-94	DIODE 1SS202-1
D11B	8-719-107-94	DIODE 1SS202-1
D81	8-719-107-94	DIODE 1SS202-1
D161	8-719-912-20	DIODE 1SS120
D261	8-719-912-20	DIODE 1SS120
D571	8-719-912-20	DIODE 1SS120
D701	8-719-200-77	DIODE 10E2N
D702	8-719-200-77	DIODE 10E2N
D703	8-719-200-77	DIODE 10E2N
D704	8-719-200-77	DIODE 10E2N
D705	8-719-912-20	(V902)...DIODE 1SS120
D706	8-719-933-33	DIODE HZS6A1L
D707	8-719-933-33	DIODE HZS6A1L
D708	8-719-912-20	(V902)...DIODE 1SS120
D709	8-719-000-54	DIODE UZL-6L3
D710	8-719-200-77	(V702)...DIODE 10E2N
D711	8-719-200-77	(V702)...DIODE 10E2N
D712	8-719-200-82	(V902)...DIODE 11ES2
D715	8-719-200-82	(V902)...DIODE 11ES2
D716	8-719-912-20	(V902)...DIODE 1SS120
D718	8-719-933-33	(V902)...DIODE HZS6A1L
D719	8-719-912-20	(V902)...DIODE 1SS120
D801	8-719-200-82	DIODE 11ES2
D802	8-719-912-20	DIODE 1SS120
D803	8-719-200-82	DIODE 11ES2
D804	8-719-912-20	DIODE 1SS120
D805	8-719-912-20	DIODE 1SS120
D806	8-719-200-82	DIODE 11ES2
D807	8-719-200-82	(V902)...DIODE 11ES2
D809	8-719-200-77	DIODE 10E2N
D904	8-719-301-38	(V902)...LED SEL2210S-C
F3	⚠1-532-078-00	(V902:AEP,WG,IT)...FUSE, TIME-LAG
F501	⚠1-532-259-00	(V902)...FUSE, TIME-LAG
F502	⚠1-532-259-00	(V902)...FUSE, TIME-LAG

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
FL901	1-519-572-11	INDICATOR TUBE, FLUORESCENT
HP901	A-2003-503-A	(DECK A)...PC BOARD ASSY, HEAD
HRP901	A-2003-504-A	(DECK B)...CHASSIS ASSY, HEAD
HE901		
IC81A	8-759-111-44	IC UPC4570C-1
IC81B	8-759-111-44	IC UPC4570C-1
IC501	8-752-018-70	IC CX20187
IC502	8-759-208-14	IC TC4066BPHB
IC531	8-759-040-53	IC MC14053BCP
IC541	8-752-038-02	IC CXA1198AP
IC542	8-759-208-06	IC TC4051BPHB
IC551	8-759-601-02	(V902)...IC M5218P
IC551	8-759-634-51	(V702)...IC M5218AP
IC561	8-759-945-58	IC RC4558P
IC571	8-759-945-58	IC RC4558P
IC701	8-759-945-58	IC RC4558P
IC801	8-759-634-79	IC M50944-155SP
IC802	8-759-633-81	IC M50925-410SP
IC803	8-759-240-50	IC TC4050BP
IC901	8-759-321-92	IC HD614022S
J501	1-565-258-11	(V902)...JACK, PIN 4P (LINE IN/OUT)
L41	1-410-780-11	INDUCTOR 27MMH
L61	1-410-780-11	INDUCTOR 27MMH
LPF101	1-231-388-00	FILTER, LOW PASS
LPF201	1-231-388-00	FILTER, LOW PASS
M901A	X-3343-447-1	(DECK A)...MOTOR ASSY
M901B	X-3343-447-1	(DECK B)...MOTOR ASSY
PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER
PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER
PS701⚠	1-532-675-00	(V902)...LINK, IC
Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q12A	8-719-939-23	PHOTO SENSOR GP2S09-C
Q12B	8-719-939-23	PHOTO SENSOR GP2S09-C
Q14A	8-719-939-23	PHOTO SENSOR GP2S09-C
Q14B	8-719-939-23	PHOTO SENSOR GP2S09-C
Q81	8-729-111-29	TRANSISTOR 2SD1388
Q82	8-729-100-12	TRANSISTOR 2SC2001-LK
Q83	8-729-100-12	TRANSISTOR 2SC2001-LK
Q101	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF
Q101	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q131	8-729-900-80	TRANSISTOR DTC114ES
Q141	8-729-142-25	TRANSISTOR 2SD1020-HFE
Q201	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF
Q201	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q231	8-729-900-80	TRANSISTOR DTC114ES
Q241	8-729-142-25	TRANSISTOR 2SD1020-HFE
Q501	8-729-900-89	TRANSISTOR DTC144ES
Q551	8-729-900-65	TRANSISTOR DTA144ES
Q552	8-729-900-65	TRANSISTOR DTA144ES
Q571	8-729-900-80	TRANSISTOR DTC114ES
Q572	8-729-119-76	TRANSISTOR 2SA1175-HFE

Ref.No.	Part No.	Description			
Q701	8-729-920-97	TRANSISTOR 2SB1187-EF			
Q702	8-729-920-98	TRANSISTOR 2SD1761-EF			
Q703	8-729-920-97	TRANSISTOR 2SB1187-EF			
Q704	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF			
Q704	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE			
Q705	8-729-900-89	TRANSISTOR DTC144ES			
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q706	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE			
Q707	8-729-118-01	(V902)...TRANSISTOR 2SB1116			
Q708	8-729-118-01	(V902)...TRANSISTOR 2SB1116			
Q801	8-729-900-61	TRANSISTOR DTA114ES			
Q802	8-729-900-61	TRANSISTOR DTA114ES			
Q803	8-729-900-61	TRANSISTOR DTA114ES			
Q804	8-729-900-61	TRANSISTOR DTA114ES			
Q805	8-729-900-61	(V902)...TRANSISTOR DTA114ES			
Q807	8-729-118-01	(V902)...TRANSISTOR 2SB1116			
Q808	8-729-118-01	(V902)...TRANSISTOR 2SB1116			
Q809	8-729-801-93	(V902)...TRANSISTOR 2SD1387			
Q810	8-729-801-93	(V902)...TRANSISTOR 2SD1387			
Q811	8-729-900-80	TRANSISTOR DTC114ES			
Q812	8-729-118-01	TRANSISTOR 2SB1116			
Q813	8-729-900-61	TRANSISTOR DTA114ES			
Q814	8-729-801-93	TRANSISTOR 2SD1387			
Q815	8-729-118-01	TRANSISTOR 2SB1116			
Q816	8-729-900-61	TRANSISTOR DTA114ES			
Q817	8-729-801-93	TRANSISTOR 2SD1387			
Q818	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q819	8-729-801-93	TRANSISTOR 2SD1387			
Q820	8-729-900-61	TRANSISTOR DTA114ES			
Q821	8-729-900-61	TRANSISTOR DTA114ES			
Q822	8-729-900-61	TRANSISTOR DTA114ES			
Q823	8-729-900-61	TRANSISTOR DTA114ES			
Q824	8-729-900-89	TRANSISTOR DTC144ES			
Q825	8-729-900-61	TRANSISTOR DTA114ES			
Q827	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q828	8-729-801-93	TRANSISTOR 2SD1387			
R11	1-247-834-11	CARBON	1.3K	5%	1/4W
R12	1-249-414-11	CARBON	560	5%	1/4W
R13	1-247-818-11	CARBON	300	5%	1/4W
R14A	1-249-408-11	CARBON	180	5%	1/4W
R14B	1-249-408-11	CARBON	180	5%	1/4W
R16A	1-249-410-11	CARBON	270	5%	1/4W
R16B	1-249-410-11	CARBON	270	5%	1/4W
R17A	1-249-437-11	CARBON	47K	5%	1/4W
R17B	1-249-437-11	CARBON	47K	5%	1/4W
R18A	1-249-437-11	CARBON	47K	5%	1/4W
R18B	1-249-437-11	CARBON	47K	5%	1/4W
R41A	1-247-881-00	CARBON	120K	5%	1/4W
R41B	1-247-881-00	CARBON	120K	5%	1/4W
R42A	1-249-405-11	CARBON	100	5%	1/4W
R42B	1-249-405-11	CARBON	100	5%	1/4W
R43A	1-247-882-11	CARBON	130K	5%	1/4W
R43B	1-247-882-11	CARBON	130K	5%	1/4W

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description				
R44A	1-249-426-11	CARBON	5.6K	5%	1/4W	
R44B	1-249-426-11	CARBON	5.6K	5%	1/4W	
R45	1-249-430-11	CARBON	12K	5%	1/4W	
R61A	1-247-881-00	CARBON	120K	5%	1/4W	
R61B	1-247-881-00	CARBON	120K	5%	1/4W	
R62A	1-249-405-11	CARBON	100	5%	1/4W	
R62B	1-249-405-11	CARBON	100	5%	1/4W	
R63A	1-247-882-11	CARBON	130K	5%	1/4W	
R63B	1-247-882-11	CARBON	130K	5%	1/4W	
R64A	1-249-426-11	CARBON	5.6K	5%	1/4W	
R64B	1-249-426-11	CARBON	5.6K	5%	1/4W	
R65	1-249-430-11	CARBON	12K	5%	1/4W	
R81A	1-249-409-11	CARBON	220	5%	1/4W	
R81B	1-249-409-11	CARBON	220	5%	1/4W	
R82A	1-249-409-11	CARBON	220	5%	1/4W	
R82B	1-249-409-11	CARBON	220	5%	1/4W	
R83	1-249-429-11	CARBON	10K	5%	1/4W	
R84	⚠.1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R85	1-249-435-11	CARBON	33K	5%	1/4W	
R86	1-249-435-11	CARBON	33K	5%	1/4W	
R101	1-249-435-11	CARBON	33K	5%	1/4W	
R102	1-249-417-11	CARBON	1K	5%	1/4W	
R103	1-249-417-11	CARBON	1K	5%	1/4W	
R104	1-249-423-11	CARBON	3.3K	5%	1/4W	
R105	1-249-428-11	CARBON	8.2K	5%	1/4W	
R106	1-247-846-11	CARBON	4.3K	5%	1/4W	
R107	1-247-840-00	CARBON	2.4K	5%	1/4W	
R109	1-247-822-11	CARBON	430	5%	1/4W	
R110	1-249-427-11	CARBON	6.8K	5%	1/4W	
R111	1-249-415-11	CARBON	680	5%	1/4W	
R112	1-249-421-11	CARBON	2.2K	5%	1/4W	
R113	1-249-433-11	CARBON	22K	5%	1/4W	
R114	1-249-425-11	CARBON	4.7K	5%	1/4W	
R131	1-249-424-11	CARBON	3.9K	5%	1/4W	
R132	1-249-431-11	CARBON	15K	5%	1/4W	
R133	1-249-424-11	CARBON	3.9K	5%	1/4W	
R134	1-247-887-00	CARBON	220K	5%	1/4W	
R141	1-249-429-11	CARBON	10K	5%	1/4W	
R142	1-249-427-11	CARBON	6.8K	5%	1/4W	
R143	1-249-422-11	CARBON	2.7K	5%	1/4W	
R144	1-249-425-11	CARBON	4.7K	5%	1/4W	
R145	1-249-425-11	CARBON	4.7K	5%	1/4W	
R151	1-249-417-11	CARBON	1K	5%	1/4W	
R152	1-249-427-11	CARBON	6.8K	5%	1/4W	
R153	1-247-887-00	CARBON	220K	5%	1/4W	
R154	1-249-441-11	CARBON	100K	5%	1/4W	
R161	1-249-417-11	CARBON	1K	5%	1/4W	
R162	1-249-436-11	CARBON	39K	5%	1/4W	
R163	1-249-432-11	CARBON	18K	5%	1/4W	
R164	1-249-410-11	CARBON	270	5%	1/4W	
R165	1-249-441-11	CARBON	100K	5%	1/4W	
R201	1-249-435-11	CARBON	33K	5%	1/4W	
R202	1-249-417-11	CARBON	1K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-423-11	CARBON	3.3K	5%	1/4W	
R205	1-249-428-11	CARBON	8.2K	5%	1/4W	
R206	1-247-846-11	CARBON	4.3K	5%	1/4W	
R207	1-247-840-00	CARBON	2.4K	5%	1/4W	
R209	1-247-822-11	CARBON	430	5%	1/4W	
R210	1-249-427-11	CARBON	6.8K	5%	1/4W	
R211	1-249-415-11	CARBON	680	5%	1/4W	
R212	1-249-421-11	CARBON	2.2K	5%	1/4W	
R213	1-249-433-11	CARBON	22K	5%	1/4W	
R214	1-249-425-11	CARBON	4.7K	5%	1/4W	
R231	1-249-424-11	CARBON	3.9K	5%	1/4W	
R232	1-249-431-11	CARBON	15K	5%	1/4W	
R233	1-249-424-11	CARBON	3.9K	5%	1/4W	
R234	1-247-887-00	CARBON	220K	5%	1/4W	
R241	1-249-429-11	CARBON	10K	5%	1/4W	
R242	1-249-427-11	CARBON	6.8K	5%	1/4W	
R243	1-249-422-11	CARBON	2.7K	5%	1/4W	
R244	1-249-425-11	CARBON	4.7K	5%	1/4W	
R245	1-249-425-11	CARBON	4.7K	5%	1/4W	
R251	1-249-417-11	CARBON	1K	5%	1/4W	
R252	1-249-427-11	CARBON	6.8K	5%	1/4W	
R253	1-247-887-00	CARBON	220K	5%	1/4W	
R254	1-249-441-11	CARBON	100K	5%	1/4W	
R261	1-249-417-11	CARBON	1K	5%	1/4W	
R262	1-249-436-11	CARBON	39K	5%	1/4W	
R263	1-249-432-11	CARBON	18K	5%	1/4W	
R264	1-249-410-11	CARBON	270	5%	1/4W	
R265	1-249-441-11	CARBON	100K	5%	1/4W	
R301	1-247-874-11	CARBON	62K	5%	1/4W	
R302	1-247-872-11	CARBON	51K	5%	1/4W	
R303	1-249-436-11	CARBON	39K	5%	1/4W	
R304	1-247-876-11	CARBON	75K	5%	1/4W	
R305	1-249-441-11	CARBON	100K	5%	1/4W	
R306	1-247-887-00	CARBON	220K	5%	1/4W	
R307	1-249-439-11	CARBON	68K	5%	1/4W	
R308	1-247-870-11	CARBON	43K	5%	1/4W	
R309	1-247-878-00	CARBON	91K	5%	1/4W	
R310	1-247-883-00	CARBON	150K	5%	1/4W	
R311	1-247-874-11	CARBON	62K	5%	1/4W	
R312	1-247-881-00	CARBON	120K	5%	1/4W	
R313	1-249-435-11	CARBON	33K	5%	1/4W	
R314	1-249-435-11	CARBON	33K	5%	1/4W	
R315	1-247-874-11	CARBON	62K	5%	1/4W	
R316	1-247-885-00	CARBON	180K	5%	1/4W	
R317	1-249-438-11	CARBON	56K	5%	1/4W	
R318	1-249-441-11	CARBON	100K	5%	1/4W	
R319	1-247-872-11	CARBON	51K	5%	1/4W	
R320	1-247-874-11	CARBON	62K	5%	1/4W	
R321	1-249-434-11	CARBON	27K	5%	1/4W	
R322	1-249-437-11	CARBON	47K	5%	1/4W	
R323	1-249-438-11	CARBON	56K	5%	1/4W	
R324	1-247-880-11	CARBON	110K	5%	1/4W	
R325	1-249-437-11	CARBON	47K	5%	1/4W	
R326	1-247-872-11	CARBON	51K	5%	1/4W	
R327	1-249-437-11	CARBON	47K	5%	1/4W	
R328	1-249-438-11	CARBON	56K	5%	1/4W	
R329	1-249-437-11	CARBON	47K	5%	1/4W	
R330	1-247-881-00	CARBON	120K	5%	1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
R331	1-249-433-11	CARBON 22K 5% 1/4W
R332	1-247-868-11	CARBON 36K 5% 1/4W
R333	1-249-434-11	CARBON 27K 5% 1/4W
R334	1-247-874-11	CARBON 62K 5% 1/4W
R335	1-247-870-11	CARBON 43K 5% 1/4W
R336	1-247-881-00	CARBON 120K 5% 1/4W
R501	1-249-405-11	CARBON 100 5% 1/4W
R502	1-249-405-11	CARBON 100 5% 1/4W
R503	1-215-469-00	METAL 100K 1% 1/6W
R504	1-249-435-11	CARBON 33K 5% 1/4W
R505	1-249-435-11	CARBON 33K 5% 1/4W
R506	1-249-435-11	CARBON 33K 5% 1/4W
R507	1-249-405-11	CARBON 100 5% 1/4W
R531	1-249-435-11	CARBON 33K 5% 1/4W
R532	1-249-435-11	CARBON 33K 5% 1/4W
R541	1-249-441-11	CARBON 100K 5% 1/4W
R542	1-249-421-11	CARBON 2.2K 5% 1/4W
R543	1-215-454-00	METAL 24K 1% 1/6W
R544	1-249-435-11	CARBON 33K 5% 1/4W
R545	1-249-435-11	CARBON 33K 5% 1/4W
R546	1-249-435-11	CARBON 33K 5% 1/4W
R551	1-249-425-11	CARBON 4.7K 5% 1/4W
R552	1-249-425-11	CARBON 4.7K 5% 1/4W
R571	1-247-887-00	CARBON 220K 5% 1/4W
R572	1-249-429-11	CARBON 10K 5% 1/4W
R573	1-249-441-11	CARBON 100K 5% 1/4W
R574	1-249-428-11	CARBON 8.2K 5% 1/4W
R575	1-249-423-11	CARBON 3.3K 5% 1/4W
R576	1-249-441-11	CARBON 100K 5% 1/4W
R577	1-249-417-11	CARBON 1K 5% 1/4W
R578	1-249-441-11	CARBON 100K 5% 1/4W
R579	1-249-429-11	CARBON 10K 5% 1/4W
R580	1-249-441-11	CARBON 100K 5% 1/4W
R581	1-249-437-11	CARBON 47K 5% 1/4W
R582	1-249-417-11	CARBON 1K 5% 1/4W
R583	1-249-441-11	(V702)...CARBON 100K 1/4W
R701	1-249-420-11	CARBON 1.8K 5% 1/4W
R702	1-249-427-11	CARBON 6.8K 5% 1/4W
R703	1-249-419-11	CARBON 1.5K 5% 1/4W
R704	1-247-854-11	CARBON 9.1K 5% 1/4W
R705	1-249-419-11	CARBON 1.5K 5% 1/4W
R706	1-249-427-11	CARBON 6.8K 5% 1/4W
R707	1-249-427-11	CARBON 6.8K 5% 1/4W
R708	1-249-409-11	CARBON 220 5% 1/4W
R709	1-249-417-11	CARBON 1K 5% 1/4W
R710	1-249-420-11	CARBON 1.8K 5% 1/4W
R711	1-249-429-11	(V902)...CARBON 10K 5% 1/4W
R712	1-247-850-11	(V902)...CARBON 6.2K 5% 1/4W
R713	1-249-417-11	(V902)...CARBON 1K 5% 1/4W
R715	1-249-433-11	CARBON 22K 5% 1/4W
R716	1-249-433-11	CARBON 22K 5% 1/4W
R717	1-249-432-11	CARBON 18K 5% 1/4W
R718	1-249-423-11	CARBON 3.3K 5% 1/4W
R804	1-249-433-11	(V902)...CARBON 22K 5% 1/4W
R805	1-249-421-11	(V902)...CARBON 2.2K 5% 1/4W
R806	1-249-433-11	CARBON 22K 5% 1/4W
R807	1-249-421-11	(V902)...CARBON 2.2K 5% 1/4W
R808	1-249-421-11	(V902)...CARBON 2.2K 5% 1/4W
R809	1-249-421-11	(V902)...CARBON 2.2K 5% 1/4W
R810	1-249-435-11	CARBON 33K 5% 1/4W
R811	1-249-435-11	CARBON 33K 5% 1/4W
R812	1-249-435-11	CARBON 33K 5% 1/4W
R813	1-249-435-11	CARBON 33K 5% 1/4W
R814	1-249-393-11	CARBON 10 5% 1/4W
R815	1-247-903-00	CARBON 1M 5% 1/4W
R816	1-249-417-11	CARBON 1K 5% 1/4W
R817	1-249-433-11	CARBON 22K 5% 1/4W
R818	1-249-388-11	CARBON 3.9 5% 1/4W
R819	1-249-421-11	CARBON 2.2K 5% 1/4W
R820	1-249-433-11	CARBON 22K 5% 1/4W
R821	1-249-417-11	CARBON 1K 5% 1/4W
R822	1-249-388-11	CARBON 3.9 5% 1/4W
R823	1-249-421-11	CARBON 2.2K 5% 1/4W
R824	1-249-425-11	CARBON 4.7K 5% 1/4W
R825	1-249-417-11	CARBON 1K 5% 1/4W
R826	1-249-433-11	CARBON 22K 5% 1/4W
R827	1-249-421-11	CARBON 2.2K 5% 1/4W
R828	1-249-435-11	CARBON 33K 5% 1/4W
R829	1-249-435-11	CARBON 33K 5% 1/4W
R830	1-249-436-11	CARBON 39K 5% 1/4W
R831	1-247-895-00	CARBON 470K 5% 1/4W
R832	1-249-436-11	CARBON 39K 5% 1/4W
R833	1-247-895-00	CARBON 470K 5% 1/4W
R834	1-249-433-11	CARBON 22K 5% 1/4W
R835	1-247-895-00	CARBON 470K 5% 1/4W
R836	1-249-436-11	CARBON 39K 5% 1/4W
R837	1-247-895-00	CARBON 470K 5% 1/4W
R838	1-249-436-11	CARBON 39K 5% 1/4W
R839	1-249-433-11	CARBON 22K 5% 1/4W
R840	1-249-425-11	CARBON 4.7K 5% 1/4W
R841	1-249-435-11	CARBON 33K 5% 1/4W
R844	1-249-417-11	CARBON 1K 5% 1/4W
R845	1-249-413-11	CARBON 470 5% 1/4W
R846	1-249-411-11	CARBON 330 5% 1/4W
R847	1-249-409-11	CARBON 220 5% 1/4W
R848	1-249-407-11	CARBON 150 5% 1/4W
R849	1-249-420-11	CARBON 1.8K 5% 1/4W
R850	1-249-417-11	CARBON 1K 5% 1/4W
R851	1-249-424-11	CARBON 3.9K 5% 1/4W
R852	1-249-420-11	CARBON 1.8K 5% 1/4W
R853	1-247-836-11	CARBON 1.6K 5% 1/4W
R854	1-249-413-11	CARBON 470 5% 1/4W
R855	1-249-411-11	CARBON 330 5% 1/4W
R856	1-249-409-11	CARBON 220 5% 1/4W
R857	1-249-407-11	CARBON 150 5% 1/4W
R858	1-249-424-11	CARBON 3.9K 5% 1/4W
R859	1-249-420-11	CARBON 1.8K 5% 1/4W
R860	1-249-417-11	CARBON 1K 5% 1/4W
R861	1-249-415-11	CARBON 680 5% 1/4W
R862	1-249-413-11	CARBON 470 5% 1/4W
R863	1-249-411-11	CARBON 330 5% 1/4W
R864	1-249-409-11	CARBON 220 5% 1/4W
R865	1-249-407-11	CARBON 150 5% 1/4W
R867	1-249-424-11	CARBON 3.9K 5% 1/4W

Ref.No.	Part No.	Description
R868	1-249-420-11	CARBON 1.8K 5% 1/4W
R869	1-247-836-11	CARBON 1.6K 5% 1/4W
R870	1-249-415-11	CARBON 680 5% 1/4W
R871	1-249-413-11	CARBON 470 5% 1/4W
R872	1-249-411-11	CARBON 330 5% 1/4W
R873	1-249-409-11	CARBON 220 5% 1/4W
R874	1-249-407-11	CARBON 150 5% 1/4W
R875	1-247-834-11	CARBON 1.3K 5% 1/4W
R876	1-249-423-11	CARBON 3.3K 5% 1/4W
R877	1-249-429-11	CARBON 10K 5% 1/4W
R879	1-249-421-11	CARBON 2.2K 5% 1/4W
R880	1-249-421-11	CARBON 2.2K 5% 1/4W
R881	1-249-421-11	CARBON 2.2K 5% 1/4W
R882	1-249-421-11	CARBON 2.2K 5% 1/4W
R883	1-249-421-11	CARBON 2.2K 5% 1/4W
R884	1-249-408-11	CARBON 180 5% 1/4W
R885	1-249-429-11	CARBON 10K 5% 1/4W
R886	1-249-425-11	CARBON 4.7K 5% 1/4W
R887	1-249-417-11	CARBON 1K 5% 1/4W
R888	1-249-433-11	CARBON 22K 5% 1/4W
R889	1-249-421-11	CARBON 2.2K 5% 1/4W
R890	1-247-903-00	CARBON 1M 5% 1/4W
R891	1-249-405-11	CARBON 100 5% 1/4W
R892	1-249-405-11	CARBON 100 5% 1/4W
R893	1-249-405-11	CARBON 100 5% 1/4W
R901	1-247-903-00	CARBON 1M 5% 1/4W
R905	1-249-408-11	(V902)...CARBON 180 5% 1/4W
R906	1-249-435-11	CARBON 33K 5% 1/4W
RV41A	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL L)
RV41B	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL L)
RV42	1-230-500-11	RES, ADJ, CARBON 220K (REC BIAS)
RV61A	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL R)
RV61B	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL R)
RV62	1-230-500-11	RES, ADJ, CARBON 220K (REC BIAS)
RV141	1-238-016-11	RES, ADJ, CARBON 10K (REC LEVEL L)
RV241	1-238-016-11	RES, ADJ, CARBON 10K (REC LEVEL R)
RV501	1-238-763-11	(V902)...RES, VAR, CARBON 20KX3 (REC LEVEL)
RV501	1-238-966-11	(V702)...RES, VAR, CARBON 20K/20K (REC LEVEL)
RY81	1-515-614-11	RELAY
S11A	1-571-281-21	SWITCH, LEAF (HALF DET)
S11B	1-571-281-21	SWITCH, LEAF (HALF DET)
S12	1-571-281-21	SWITCH, LEAF (ERASE PROOF)
S13	1-571-281-21	SWITCH, LEAF (ERASE PROOF)
S14A	1-571-281-21	SWITCH, LEAF (CrO2)
S14B	1-571-281-21	SWITCH, LEAF (CrO2)
S15	1-571-281-21	SWITCH, LEAF (METAL)
S701	1-571-305-11	(V902)...SWITCH, PUSH (1 KEY)(POWER)
S801	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (❚❚)
S802	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (◀)
S803	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (▶)
S804	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (■)
S805	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (▶▶)
S806	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (◀◀)
S808	1-554-303-21	SWITCH, KEY BOARD (COUNTER A/B)
S814	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S815	1-554-303-21	SWITCH, KEY BOARD (RESET)
S816	1-554-303-21	SWITCH, KEY BOARD (FADER)
S817	1-554-303-21	(V902)...SWITCH, KEY BOARD (APL)
S818	1-554-303-21	SWITCH, KEY BOARD (BLANK SKIP)
S819	1-554-303-21	SWITCH, KEY BOARD (NORMAL SPEED)
S820	1-554-303-21	SWITCH, KEY BOARD (HIGH SPEED)
S821	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (●)
S822	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (▶▶)
S823	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (◀◀)
S824	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (○)
S825	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (❚❚)
S826	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (◀)
S827	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (▶)
S828	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (■)
S829	1-571-520-21	SWITCH, SLIDE (DOLBY NR)
S830	1-571-520-21	SWITCH, SLIDE (DIRECTION MODE)
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T81	1-433-337-11	TRANSFORMER, BIAS OSCILLATION
T901	⚠1-449-460-11	(V902:AEP,WG,IT,UK) ...TRANSFORMER, POWER
T901	⚠1-449-461-11	(V902:E,EA)...TRANSFORMER, POWER
TP801	*1-564-336-00	PIN, CONNECTOR 2P
VS901	⚠1-570-307-11	(V902:E,EA)...SWITCH, VOLTAGE SELECTOR
X801	1-567-819-11	VIBRATOR, CERAMIC (4MHz)
X802	1-567-819-11	VIBRATOR, CERAMIC (4MHz)
X901	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-465-407-11	(V702:AEP,WG,UK,IT)...REMOTE COMMNDER (RM-S730)
1-465-439-11	(V702:E,EA)...REMOTE COMMNDER (RM-S730E)
1-465-406-11	(V902:AEP,WG,UK,IT)...REMOTE COMMNDER (RM-S930)
1-465-440-11	(V902:E,EA)...REMOTE COMMNDER (RM-S930E)
1-559-533-11	CORD, CONNECTION
*3-343-648-01	(V902:AEP,WG,IT)......CUSHION
3-350-154-01	(V902:UK,E,EA,V702)...CUSHION
*3-343-647-11	INDIVIDUAL CARTON
*3-704-350-01	SHEET (STANDARD), PROTECTION
3-707-584-01	COVER, BATTERY
3-751-596-11	(V902:AEP,WG,IT)...MANUAL, INSTRUCTION
3-751-596-41	(V902:AEP,WG,IT)...MANUAL, INSTRUCTION

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Sony Corporation
Audio Group

English
90D0670-1
Printed in Japan
© 1990.4
Published by Customer Relations and Service Group

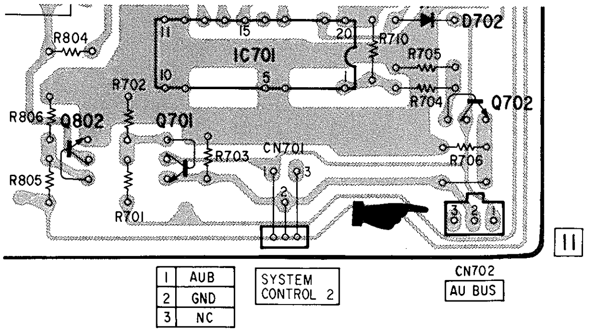
ST-V702

SERVICE MANUAL

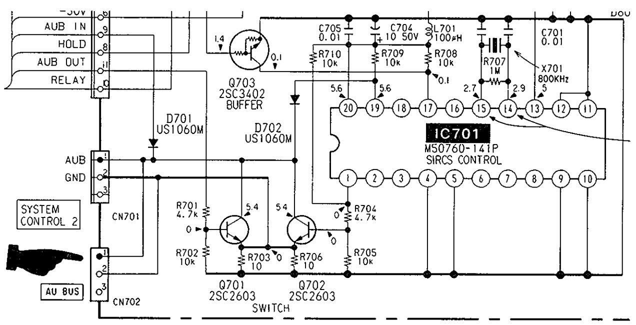
AEP Model
UK Model

The model is almost the same as the model ST-V502 previously produced. Therefore, see the ST-V502 service manual for the information not contained in this service manual.

PRINTED WIRING BOARDS
Page 10 on ST-V502 Service Manual
☛ : different portion


R804
R702
R806
Q802
Q701
R805
R701
R703
CN701
IC701
11
15
20
10
5
1
R710
R705
R704
D702
Q702
R706
1 AUB
2 GND
3 NC
SYSTEM CONTROL 2
CN702
AU BUS
11

SCHEMATIC DIAGRAM
Page 12 on ST-V502 Service Manual
☛ : different portion


AUB IN
HOLD
AUB OUT
RELAY
Q703
2SC3402
BUFFER
D701
US1060M
D702
US1060M
C705
0.01
C704
10 50V
L701
100μH
R710
10k
R709
10k
R708
10k
R707
1M
C701
0.01
X701
800KHz
IC701
M50760-141P
SIRCS CONTROL
AUB
GND
SYSTEM CONTROL 2
CN701
R701
4.7k
R702
10k
R703
10
R706
10
R704
4.7k
R705
10k
AU BUS
CN702
Q701
2SC2603
Q702
2SC2603
SWITCH

PARTS LIST

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- WG : West Germany model
  IT : Italian model

Page on ST-V502 Service Manual	No.	ST-V502 Part No.	ST-V702 Part No.	Description
14	1	X-4917-289-1	X-4917-290-1	PANEL ASSY, FRONT
	15	★4-934-871-11 ★4-934-871-21 ★4-934-871-41	★4-934-881-11 ★4-934-881-21 ★4-934-881-41	(AEP,IT) ····PANEL, BACK (UK) ······ PANEL, BACK (WG) ······ PANEL, BACK
	19	4-933-601-01	★4-934-883-01	FOOT
14, 17	902	★A-4334-501-A ★A-4334-503-A ★A-4334-822-A	★A-4334-690-A ★A-4334-697-A ★A-4334-692-A	(AEP) ······MOUNTED PCB, POWER (WG,IT) ····MOUNTED PCB, POWER (UK) ······ MOUNTED PCB, POWER
	903	★A-4334-497-A ★A-4334-499-A ★A-4334-500-A ★A-4334-821-A	★A-4334-689-A ★A-4334-696-A ★A-4334-698-A ★A-4334-691-A	(AEP) ······MOUNTED PCB, PANEL (WG) ······ MOUNTED PCB, PANEL (IT) ········MOUNTED PCB, PANEL (UK) ······ MOUNTED PCB, PANEL
17	CN701	★1-569-625-21	★1-569-625-11	SOCKET, CONNECTOR 3P (SYSTEM CONTROL 2)
	CN702	——	★1-565-561-11	PIN, CONNECTOR 3P (AU BUS)
	CN901	★1-569-625-11	★1-569-625-41	SOCKET, CONNECTOR 3P (SYSTEM CONTROL 1)

FM STEREO/FM-AM TUNER

SONY®

English
90E1652-1

Sony Corporation
Audio Group

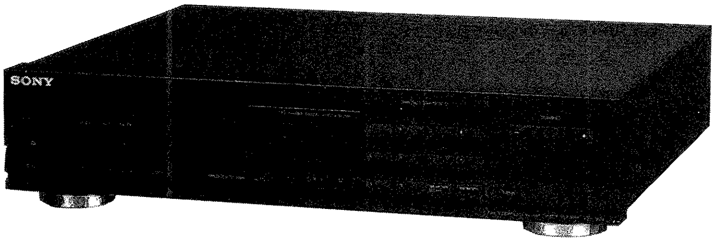
9-955-922-11

Printed in Japan
©1990.5
Published by Customer Relations and Service Group

ST-V502

SERVICE MANUAL

AEP Model
UK Model



This set is FM stereo/FM-AM Tuner section in LBT-V502/V502CD/V502CDG.

SPECIFICATIONS

Tuner	
System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
MW/LW tuner section	
Tuning range	MW: 522 to 1,611kHz (Italian model) 531 to 1,602kHz (other models) LW: 144 to 288kHz (Italian model) 153 to 279kHz (other models)
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz
Power requirements	240V AC, 50Hz (UK model) 220V AC, 50Hz (other models)
Power consumption	10 W
AC outlet	2 switched, total 500 W max.
Weight	Approx. 2.4 kg
Dimensions	Approx. 355 × 80 × 312 mm (w/h/d, including projections)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

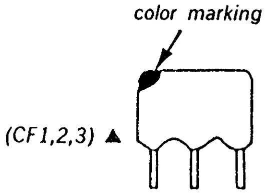
FM STEREO/FM-AM TUNER

SONY®

SECTION 1
SERVICING NOTES

Note on Ceramic Filter (CF1,2,3) ▲ Replacement.

This set employs three ceramic filters (CF1,2,3) ▲ which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by ∗ D609, ∗ D610 is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



○ : Mounted
× : not Mounted

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	∗ D609	∗ D610	
White	10.750	○	×	10.750
Red	10.700	×	×	10.700
Black	10.650	×	○	10.650

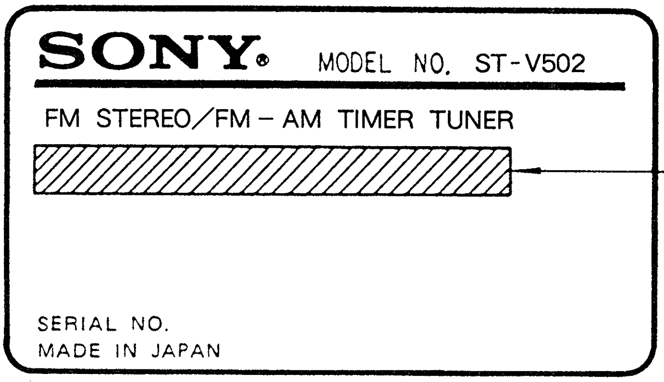
FM intermediate frequency is determined by the three types as shown above, Ceramic filters of same center frequency,i.e., of same color coding should be used for CF1, CF2, and CF3.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

▲ : AEP, UK Model : CF1, 2
WG, IT Model : CF1, 2, 3

MODEL IDENTIFICATION

– Specification Label –



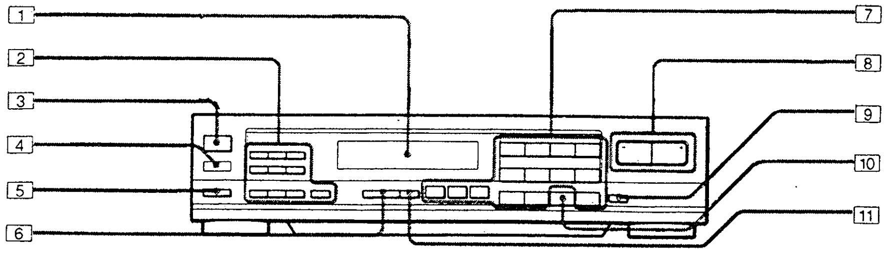
SONY® MODEL NO. ST-V502

FM STEREO/FM – AM TIMER TUNER

SERIAL NO.
MADE IN JAPAN

AEP, West Germany,
Italian Model : AC : 220V ~ 50/60 Hz
UK Model : AC : 240V ~ 50/60 Hz

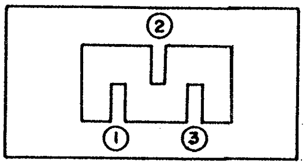
LOCATION OF CONTROLS



1	Display window
2	Buttons for setting the clock and timer
3	SYSTEM POWER switch
4	Remote sensor
5	SLEEP button
6	FREQUENCY/TIME button
7	Buttons for storing station frequencies
8	TUNING buttons
9	BAND selector
10	MEMORY SCAN button
11	AUTO tuning button

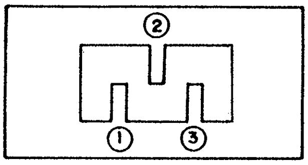
Signal of System Control Connector

CNJ901
SYSTEM CONTROL 1



1	L-CH OUT
2	GND
3	R-CH OUT

CNJ701
SYSTEM CONTROL 2



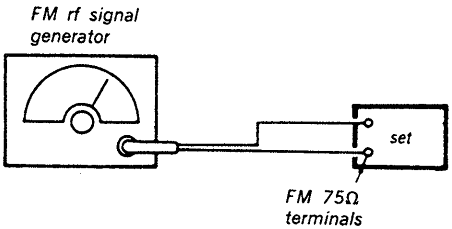
1	AUB
2	GND
3	

SECTION 2
ELECTRICAL ADJUSTMENTS

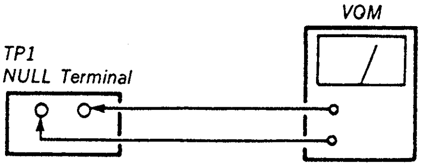
FM SECTION

FM DISCRIMINATOR ADJUSTMENT

Setting:


FM rf signal generator
set
FM 75Ω terminals

Carrier frequency : *98MHz*
Modulation : *1kHz, 40kHz deviation (100%)*
Output level : *1mV (60dB)*


VOM
TP1
NULL Terminal

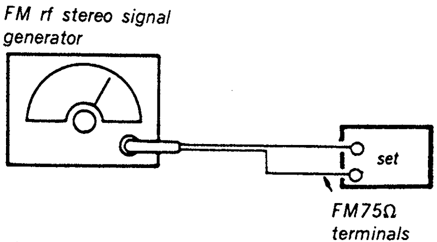
Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

Note : FM tuning level adjustment should be made after FM discriminator alignment.

FM TUNING LEVEL ADJUSTMENT

Setting :


FM rf stereo signal generator
set
FM75Ω terminals

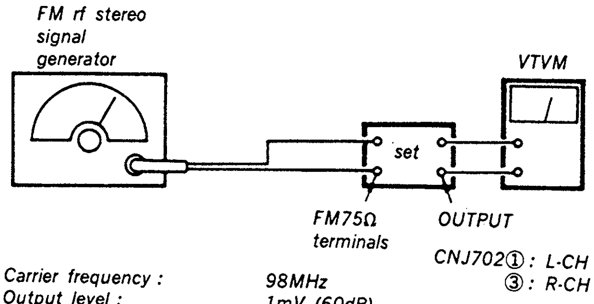
Carrier frequency : *98MHz*
Modulation : *1kHz, 40kHz deviation (100%)*
Output level : *17.8μV (25dB)*

Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNED LED goes on.

FM STEREO SEPARATION ADJUSTMENT

Procedure :


FM rf stereo signal generator
VTVM
set
FM75Ω terminals
OUTPUT
CNJ702①: L-CH
③: R-CH

Carrier frequency : *98MHz*
Output level : *1mV (60dB)*
Modulation
Audio 400Hz : *16.25kHz deviation*
Sub channel 38kHz : *16.25kHz deviation*
Pilot signal 19kHz : *7.5kHz deviation*

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ−Ⓑ
R-CH Stereo separation : Ⓒ−Ⓓ

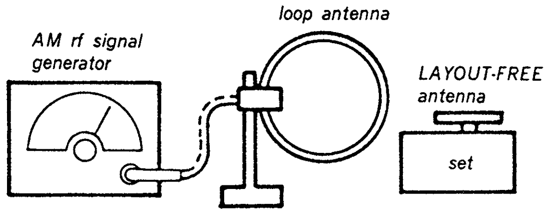
The separations of both channels should be equal.

MW/LW SECTION

AM TUNING LEVEL ADJUSTMENT

BAND select switch : LW

Setting :


loop antenna
AM rf signal generator
LAYOUT-FREE antenna
set

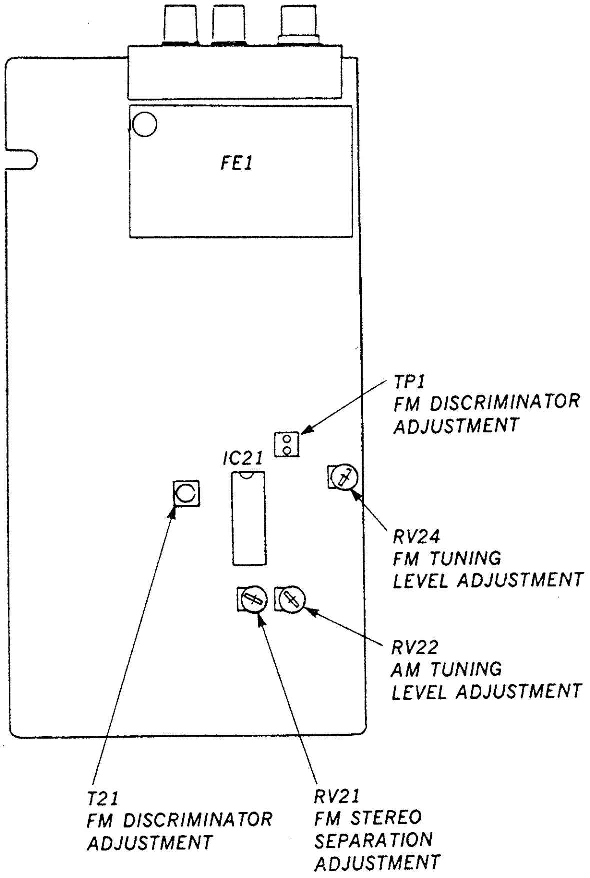
Carrier frequency : 216kHz
Modulation : 400Hz, 30% modulation

Procedure :

1. Set loop antenna so that the LAYOUT-FREE antenna input level becomes 2.5mV/m (68dB).
2. Tune the set to 216kHz.
3. Adjust the RV22 so that the TUNED LED goes on.

Adjustment Location :

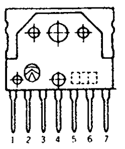
—tuner board—


FE1
IC21
TP1
FM DISCRIMINATOR ADJUSTMENT
RV24
FM TUNING LEVEL ADJUSTMENT
RV22
AM TUNING LEVEL ADJUSTMENT
T21
FM DISCRIMINATOR ADJUSTMENT
RV21
FM STEREO SEPARATION ADJUSTMENT

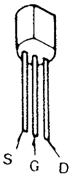
SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

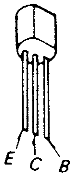
LA5667



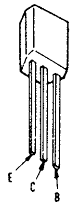
2SK246-GR3



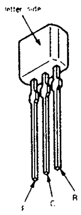
2SB1116A-L



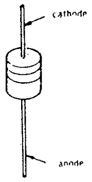
DTA144ES
DTC114ES
2SA1317-STU
2SC2603-EF
2SC2669-OY
2SC3113-A
2SC3330-STU
2SC3402



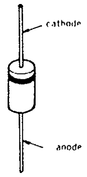
2SC2785-HFE


letter side
E C B

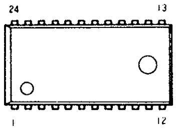
HZS27-2L
1SS120


cathode
anode

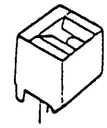
UZP-6.8B
10E2N


cathode
anode

LC7218

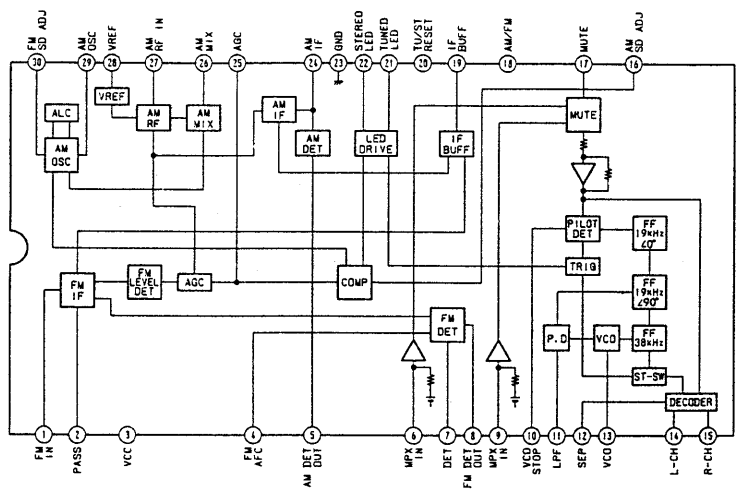


GP1U52XB

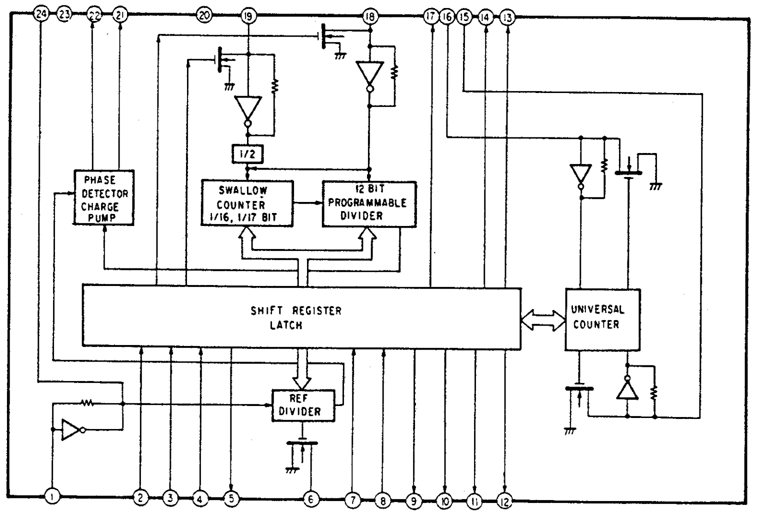


3-2. IC BLOCK DIAGRAMS

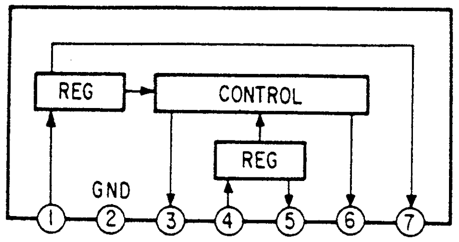
IC21 LA1851N


FM SD ADJ
AM OSC
VREF
AM RF IN
AM MIX
AGC
AM IF
GND
STEREO LED
TUNED LED
TU/ST RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
VREF
AM RF
AM MIX
AM IF
AM DET
LED DRIVE
IF BUFF
MUTE
PILOT DET
FF 19kHz ∠0°
TRIG
FF 19kHz ∠90°
FF 38kHz
P.D
VCO
ST-SW
DECODER
FM IF
FM LEVEL DET
AGC
COMP
FM DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
FM IN
PASS
VCC
FM AFC
AM DET OUT
MPX IN
DET
FM DET OUT
MPX IN
VCO STOP
LPF
SEP
VCO
L-CH
R-CH

IC81 LC7218


24
23
22
21
20
19
18
17
16
15
14
13
PHASE DETECTOR CHARGE PUMP
1/2
SWALLOW COUNTER 1/16, 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER
1
2
3
4
5
6
7
8
9
10
11
12

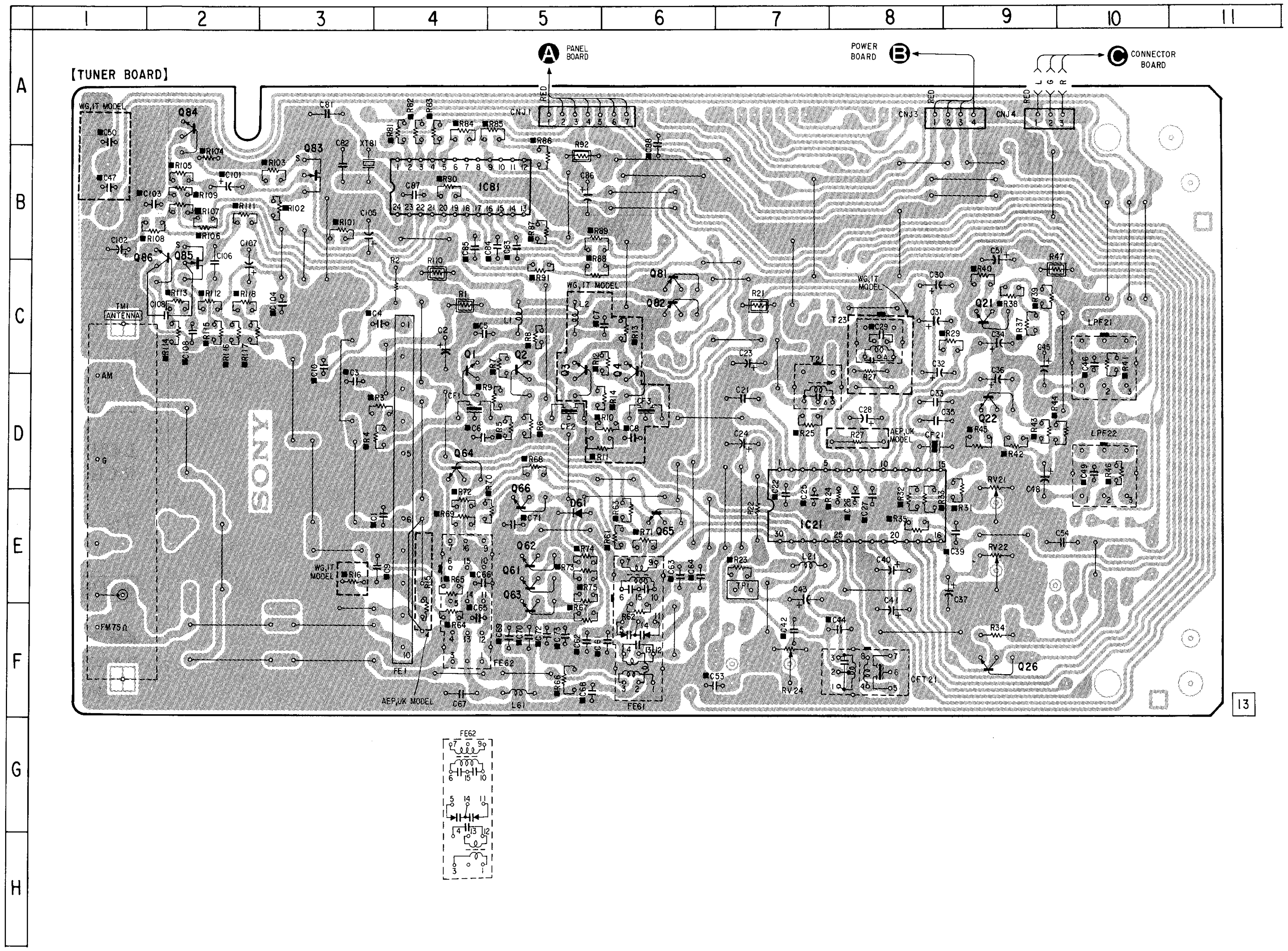
IC701 LA5667


REG
CONTROL
REG
GND
1
2
3
4
5
6
7

3-3. TUNER SECTION PRINTED WIRING BOARD

• Semiconductor Location

Ref. No.	Location
D61	E-5
IC21	E-8
IC81	B-4
Q1	D-4
Q2	D-5
Q3	D-5
Q4	D-6
Q21	C-9
Q22	D-9
Q26	F-9
Q61	E-5
Q62	E-5
Q63	F-6
Q64	D-4
Q65	E-6
Q66	E-5
Q81	C-6
Q82	C-6
Q83	B-3
Q84	A-2
Q85	C-2
Q86	C-2


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
A PANEL BOARD
POWER BOARD B
C CONNECTOR BOARD
[TUNER BOARD]
CNJ1
CN21
CNJ4
WG, IT MODEL
TM1 ANTENNA
AM
FM75Ω
AEP, UK MODEL
SONY
IC81
IC21
Q84
Q83
Q85
Q86
Q81
Q82
Q1
Q2
Q3
Q4
Q21
Q22
Q26
Q61
Q62
Q63
Q64
Q65
Q66
D61
XT81
CF1
CF2
CF3
CF21
FE1
FE61
FE62
T21
T23
L61
LPF21
LPF22
RV21
RV22
RV24
13

• Note on Printed Wiring Board

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⌜⌟ : indicates side identified with part number.

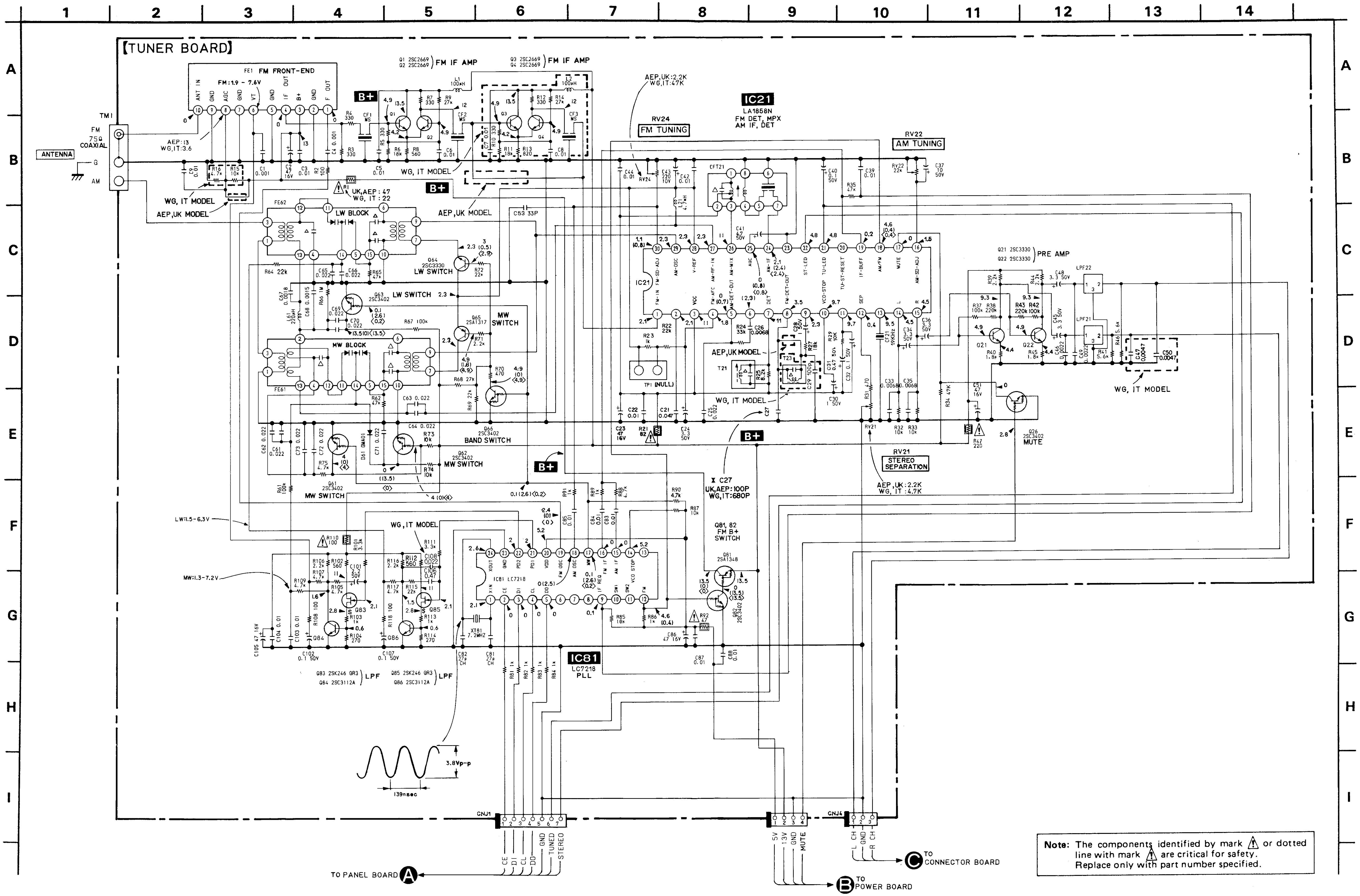
• WG: West Germany model
• IT: Italian model

• Note on Schematie Digmam

- *D609, *D610: See page 2 for Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- B+ : B+ Line
- B− : B– Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ‹ › : LW
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

• WG: West Germany model
• IT : Italian model

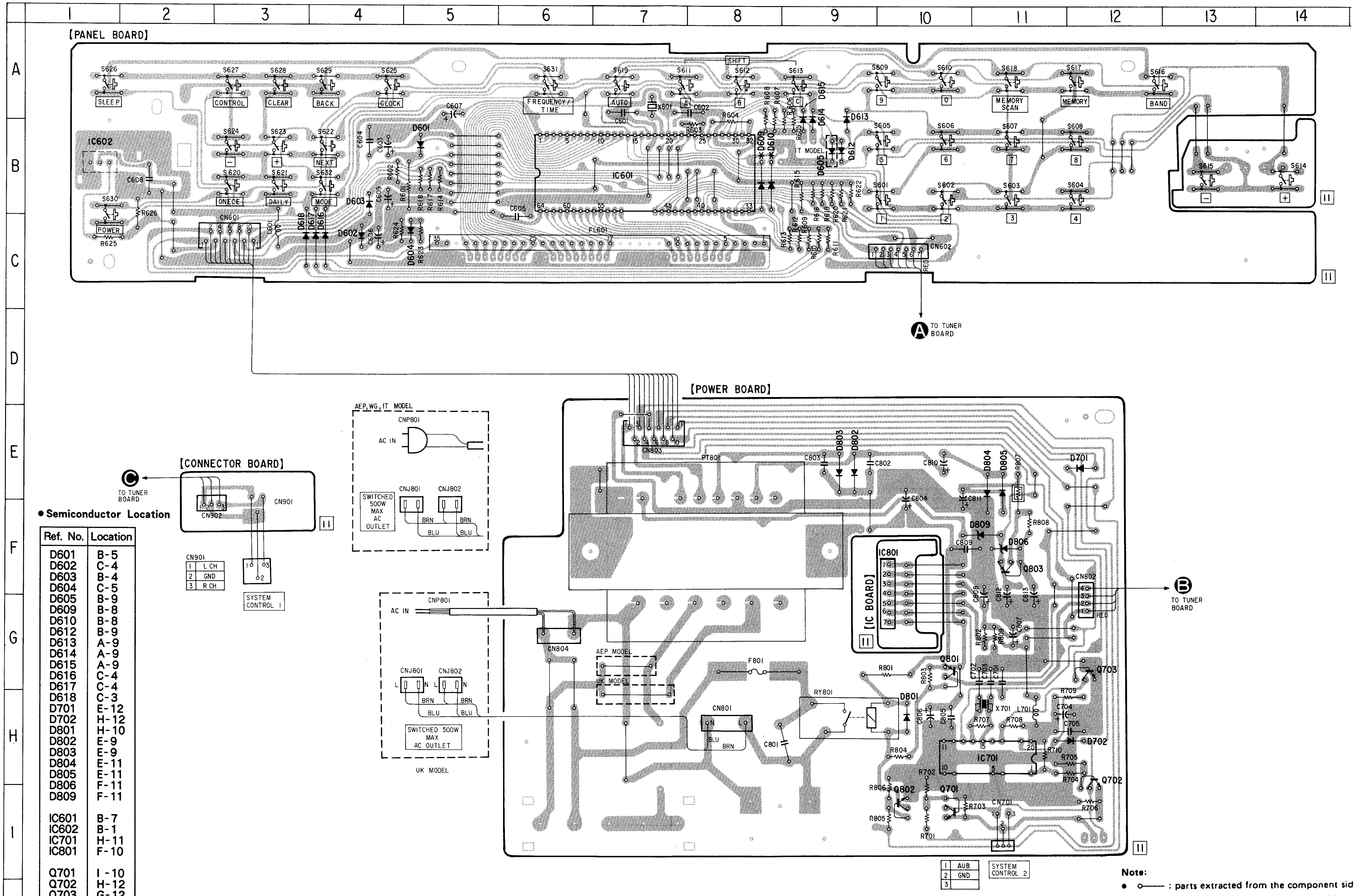
3-4. TUNER SECTION SCHEMATIC DIAGRAM



【TUNER BOARD】
FE1 FM FRONT-END
FM:1.9 - 7.6V
Q1 2SC2669
Q2 2SC2669
FM IF AMP
Q3 2SC2669
Q4 2SC2669
FM IF AMP
B+
ANTENNA
TM1
FM 75Ω COAXIAL
AM
AEP:13
WG,IT:3.6
WG, IT MODEL
AEP,UK MODEL
UK,AEP : 47
WG, IT : 22
AEP,UK MODEL
LW BLOCK
MW BLOCK
FE62
FE61
Q64 2SC3330 LW SWITCH
Q63 2SC3402 LW SWITCH
Q65 2SA1317 MW SWITCH
Q66 2SC3402 BAND SWITCH
Q62 2SC3402 MW SWITCH
Q61 2SC3402 MW SWITCH
C53 33P
AEP,UK:2.2K
WG,IT:47K
RV24
FM TUNING
IC21
LA1858N
FM DET, MPX
AM IF, DET
RV22
AM TUNING
CFT21
T21
TP1 (NULL)
AEP,UK MODEL
WG, IT MODEL
Q21 2SC3330
Q22 2SC3330
PRE AMP
LPF22
LPF21
WG, IT MODEL
Q26 2SC3402 MUTE
RV21
STEREO SEPARATION
AEP,UK:2.2K
WG, IT:4.7K
C27
UK,AEP:100P
WG,IT:680P
Q81, 82
FM B+ SWITCH
Q81 2SA1348
Q82 2SC3402
LW:1.5-6.3V
MW:1.3-7.2V
WG,IT MODEL
IC81 LC7218
IC81
LC7218
PLL
X181 7.2MHZ
Q83 2SK246 GR3
Q84 2SC3112A
LPF
Q85 2SK246 GR3
Q86 2SC3112A
LPF
3.8Vp-p
139nsec
CNJ1
CE
DI
CL
DO
GND
TUNED
STEREO
TO PANEL BOARD A
5V
13V
GND
MUTE
TO POWER BOARD B
CNJ4
L CH
GND
R CH
TO CONNECTOR BOARD C

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

3-5. CONTROL AND POWER SUPPLY SECTION PRINTED WIRING BOARDS

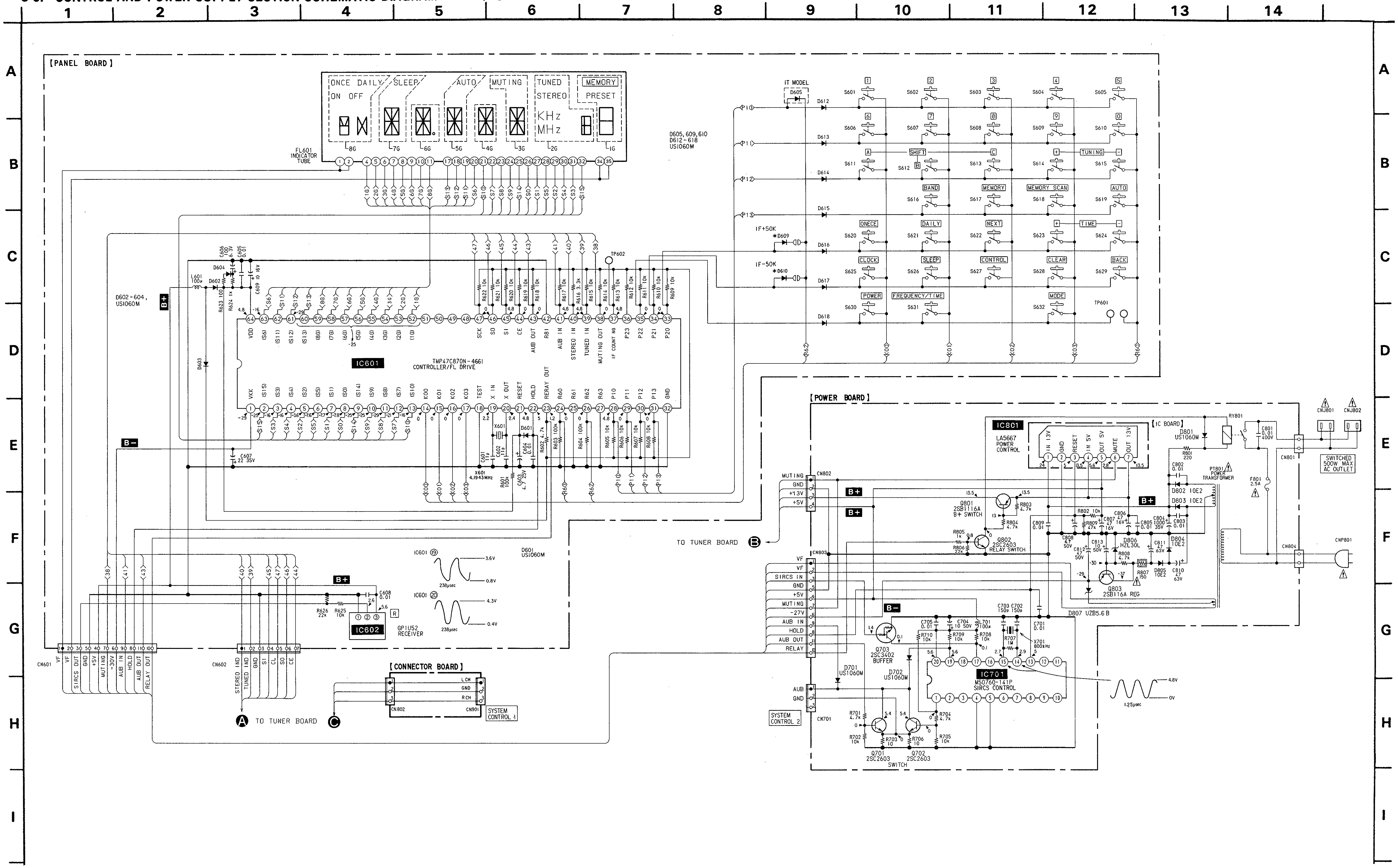

[PANEL BOARD]
SLEEP
CONTROL
CLEAR
BACK
CLOCK
FREQUENCY/TIME
AUTO
SHIFT
MEMORY SCAN
MEMORY
BAND
ONECE
DAILY
MODE
NEXT
POWER
IC601
IC602
FL601
CN601
CN602
IT MODEL
TO TUNER BOARD
[POWER BOARD]
PT801
CN803
CN802
CN804
CN801
CN701
F801
RY801
IC701
[IC BOARD]
IC801
AEP MODEL
UK MODEL
AEP, WG, IT MODEL
CNP801
AC IN
CNJ801
CNJ802
SWITCHED 500W MAX AC OUTLET
BRN
BLU
UK MODEL
[CONNECTOR BOARD]
CN901
CN902
1 L CH
2 GND
3 R CH
SYSTEM CONTROL 1
1 AUB
2 GND
3
SYSTEM CONTROL 2

• Semiconductor Location

Ref. No.	Location
D601	B-5
D602	C-4
D603	B-4
D604	C-5
D605	B-9
D609	B-8
D610	B-8
D612	B-9
D613	A-9
D614	A-9
D615	A-9
D616	C-4
D617	C-4
D618	C-3
D701	E-12
D702	H-12
D801	H-10
D802	E-9
D803	E-9
D804	E-11
D805	E-11
D806	F-11
D809	F-11
IC601	B-7
IC602	B-1
IC701	H-11
IC801	F-10
Q701	I-10
Q702	H-12
Q703	G-12
Q801	G-10
Q802	I-10
Q803	F-11

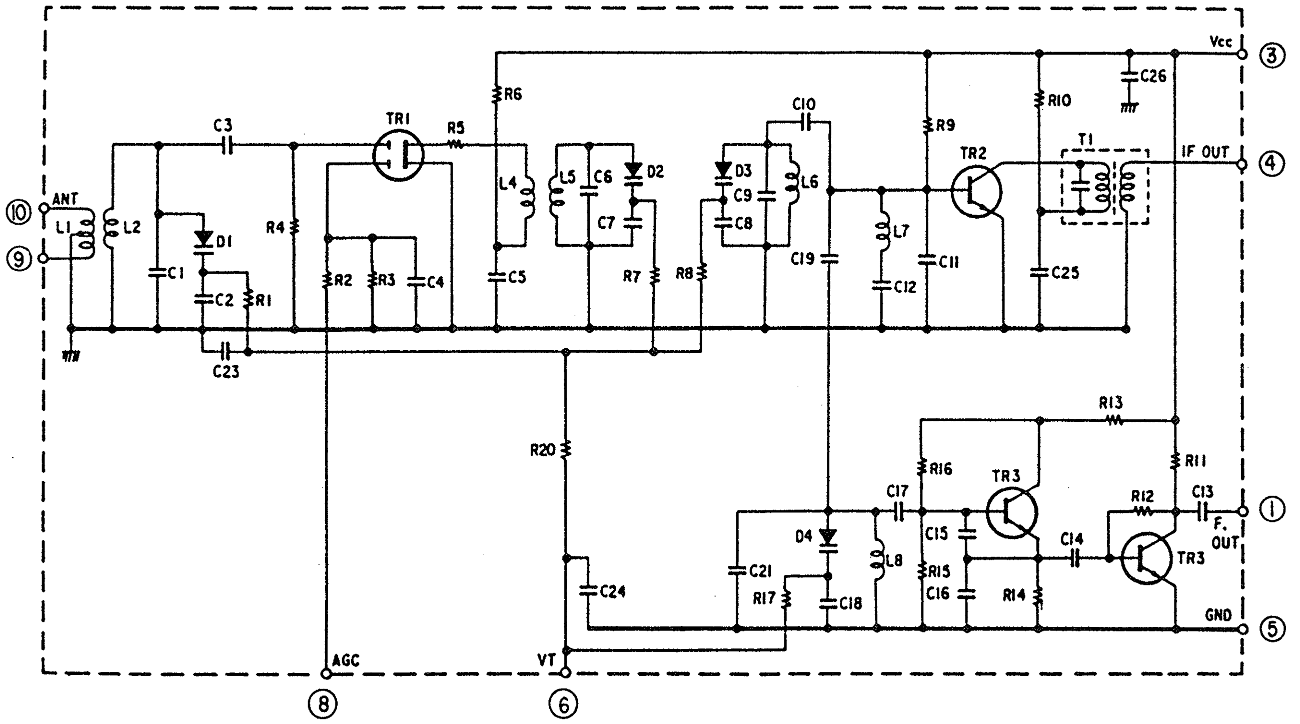
Note:
- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- [ ]— indicates side identified with part number.
- WG: West Germany model
- IT: Italian model

3-6. CONTROL AND POWER SUPPLY SECTION SCHEMATIC DIAGRAM • See page 6 for Notes.

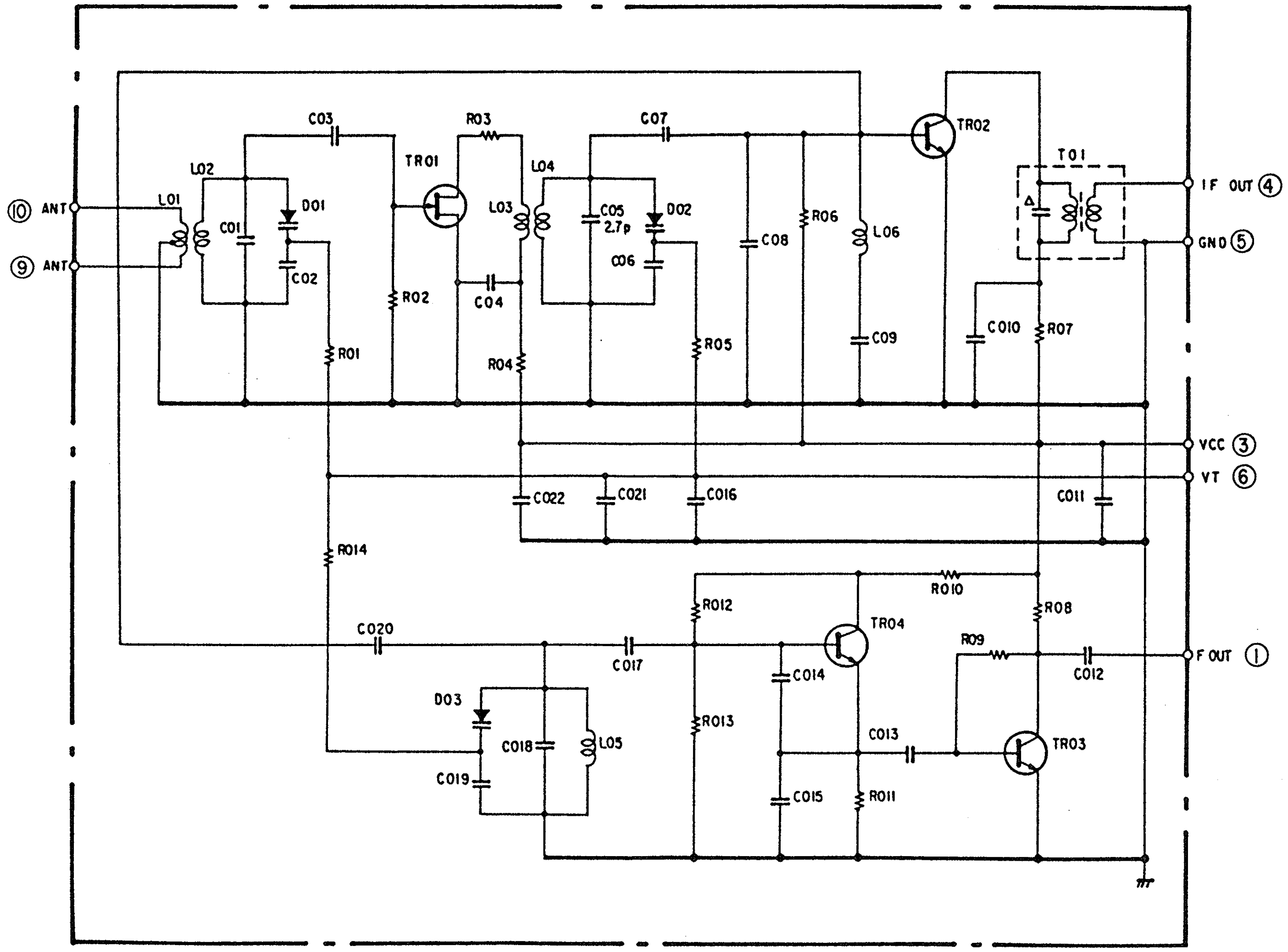

1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
[PANEL BOARD]
ONCE DAILY SLEEP AUTO MUTING TUNED MEMORY
ON OFF STEREO PRESET
KHz MHz
FL601 INDICATOR TUBE
IT MODEL
D605, 609, 610
D612-618
US1060M
S601 S602 S603 S604 S605
S606 S607 S608 S609 S610
S611 S612 SHIFT S613 S614 TUNING S615
BAND S616 MEMORY S617 MEMORY SCAN S618 AUTO S619
ONECE S620 DAILY S621 NEXT S622 TIME S623 S624
CLOCK S625 SLEEP S626 CONTROL S627 CLEAR S628 BACK S629
POWER S630 FREQUENCY/TIME S631 MODE S632
TP601 TP602
IF+50K D609
IF-50K D610
D602-604, US1060M
L601 100μ
IC601
TMP47C870N-4661
CONTROLLER/FL DRIVE
VDD SCK SO SI CE AUB OUT R81 AUB IN STEREO IN TUNED IN MUTING OUT IF COUNT NO P23 P22 P21 P20
VKK K00 K01 K02 K03 TEST X IN X OUT RESET HOLD RERAY OUT R60 R61 R62 R63 P10 P11 P12 P13 GND
X601 4.1943MHz
D601 US1060M
C607 22 35V
IC601 ⑲ 3.6V 0.8V 238μsec
IC601 ⑳ 4.3V 0.4V 238μsec
IC602
GP1U52 RECEIVER
R626 22k R625 10k
C608 0.01
CN601
VF VF SIRCS GND +5V MUTING -30V AUB IN HOLD AUB OUT RELAY OUT
CN602
STEREO IND TUNED IND GND SI CL SO CE
TO TUNER BOARD
[CONNECTOR BOARD]
L CH GND R CH
CN802 CN901
SYSTEM CONTROL 1
[POWER BOARD]
IC801
LA5667 POWER CONTROL
IN 13V GND RESET IN 5V OUT 5V MUTE OUT 13V
[IC BOARD]
D801 US1060M
RY801
C801 0.01 400V
CN801
CNJ801 CNJ802
SWITCHED 500W MAX AC OUTLET
PT801 POWER TRANSFORMER
F801 2.5A
D802 10E2
D803 10E2
D804 10E2
D805 10E2
D806 HZL30L
D807 UZB5.6B
Q801 2SB1116A B+ SWITCH
Q802 2SC2603 RELAY SWITCH
Q803 2SB1116A REG
CN804
CNP801
CN802
MUTING GND +13V +5V
TO TUNER BOARD
CN803
VF VF SIRCS IN GND +5V MUTING -27V AUB IN HOLD AUB OUT RELAY
B+ B-
Q703 2SC3402 BUFFER
D701 US1060M
D702 US1060M
IC701
M50760-141P SIRCS CONTROL
X701 800kHz
4.8V 0V 1.25μsec
AUB GND
CN701
SYSTEM CONTROL 2
Q701 2SC2603 Q702 2SC2603 SWITCH

3-7. FM FRONT-END (FE1) SCHEMATIC DIAGRAMS

(West Germany, Italian Model)


Vcc
③
C26
R6
R10
R9
C10
TR1
R5
C3
T1
IF OUT
④
TR2
L4
L5
C6
D2
D3
C9
L6
⑩
ANT
L1
L2
D1
⑨
R4
C1
C7
C8
C19
L7
C11
C25
C2
R1
R2
R3
C4
C5
R7
R8
C12
C23
R13
R20
R16
TR3
R11
C17
R12
C13
①
F. OUT
D4
C15
C14
TR3
C21
L8
R15
C16
R14
C24
R17
C18
GND
⑤
AGC
VT
⑧
⑥

(AEP, UK Model)


C03
C07
TR02
TR01
R03
L02
L04
T01
L01
C01
D01
L03
C05
2.7p
D02
R06
L06
⑩ ANT
⑨ ANT
IF OUT ④
GND ⑤
C02
C06
C08
C04
R02
R01
R04
R05
C09
C010
R07
VCC ③
VT ⑥
C022
C021
C016
C011
R014
R010
R012
TR04
R08
C020
C017
R09
F OUT ①
C014
C012
D03
C013
TR03
C018
L05
R013
C019
C015
R011

SECTION 4
EXPLODED VIEW

NOTE:

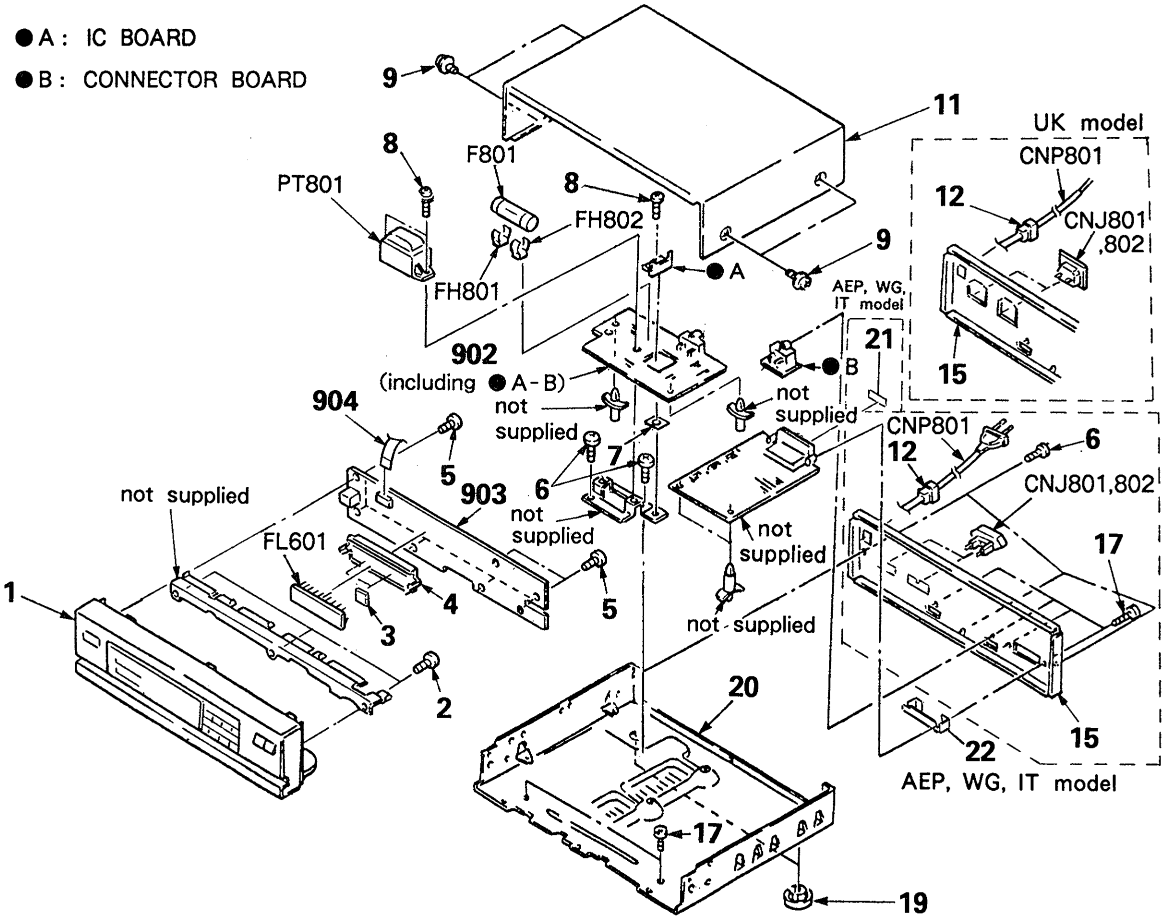
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) ... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- WG: West Germany model
- IT : Italian model

●A : IC BOARD

●B : CONNECTOR BOARD


9
8
F801
PT801
8
FH802
11
UK model
CNP801
12
CNJ801
,802
9
●A
FH801
AEP, WG, IT model
21
902
(including ●A-B)
●B
15
904
not supplied
not supplied
CNP801
6
12
5
7
6
903
not supplied
CNJ801,802
not supplied
not supplied
FL601
17
1
4
5
3
not supplied
2
20
22
15
AEP, WG, IT model
17
19

No.	Part No.	Description	Remarks
1	X-4917-289-1	PANEL ASSY, FRONT	
2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
3	*4-921-941-31	CUSHION (FL)	
4	*4-923-103-01	HOLDER, FL TUBE	
5	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
6	7-682-547-09	SCREW +BVTT 3X6 (S)	
7	*4-937-354-01	SHEET	
8	3-703-249-31	SCREW, S TIGHT, +PTTWH (M3X10)	
9	3-704-366-01	SCREW (CASE) (M3X8)	
11	4-919-389-31	CASE	
12	*3-703-244-00	BUSHING (2104), CORD	
15	*4-934-871-11	(AEP,IT)...PANEL, BACK	
	*4-934-871-21	(UK).......PANEL, BACK	
	*4-934-871-41	(WG).......PANEL, BACK	
17	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
19	4-933-601-01	FOOT	
20	*4-924-520-01	CHASSIS	
21	*4-612-009-01	(WG,IT)...SPACER (A)	
22	*4-924-988-11	PLATE (ST), GROUND	
902	*A-4334-501-A	(AEP).....MOUNTED PCB, POWER	
	*A-4334-503-A	(WG,IT)...MOUNTED PCB, POWER	
	*A-4334-822-A	(UK)......MOUNTED PCB, POWER	
903	*A-4334-497-A	(AEP)...MOUNTED PCB, PANEL	
	*A-4334-499-A	(WG)....MOUNTED PCB, PANEL	
	*A-4334-500-A	(IT)....MOUNTED PCB, PANEL	
	*A-4334-821-A	(UK)....MOUNTED PCB, PANEL	
904	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
CNJ801⚠	1-526-751-00	(UK)..........OUTLET, AC	
CNJ801⚠	1-526-794-11	(AEP,WG,IT)...OUTLET, AC	
CNJ802⚠	1-526-751-00	(UK)..........OUTLET, AC	
CNJ802⚠	1-526-794-11	(AEP,WG,IT)...OUTLET, AC	
CNP801⚠	1-575-651-11	(AEP,WG,IT)...CORD, POWER	
CNP801⚠	1-575-652-11	(UK)..........CORD, POWER	
F801 ⚠.	1-532-286-00	FUSE, TIME-LAG (2.5A)	
FH801	1-533-213-31	HOLDER, FUSE	
FH802	1-533-213-31	HOLDER, FUSE	
FL601	1-519-595-11	INDICATOR TUBE, FLUORESCENT	
PT801⚠.	1-449-979-11	TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- WG: West Germany model
- IT : Italian model

TUNER SECTION

Ref.No.	Part No.	Description
C1	1-162-294-31	CERAMIC CHIP 0.001MF 20% 25V
C2	1-126-101-11	ELECT 100MF 20% 16V
C3	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C4	1-162-294-31	CERAMIC CHIP 0.001MF 20% 25V
C5	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C6	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C7	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF 20% 16V
C8	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF 20% 16V
C9	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C11	1-101-005-00	(WG,IT)...CERAMIC 0.022MF 50V
C21	1-101-006-00	CERAMIC 0.047MF 50V
C22	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C23	1-124-477-11	ELECT 47MF 20% 16V
C24	1-123-382-00	ELECT 3.3MF 20% 50V
C25	1-163-063-00	CERAMIC MELF 0.022MF 25V
C26	1-163-019-00	CERAMIC CHIP 0.0068 20% 12V
C27	1-162-516-11	(AEP,UK)..CERAMIC CHIP 100PF 10% 50V
C27	1-163-007-11	(WG,IT)...CERAMIC CHIP 680PF 20% 50V
C28	1-124-791-11	ELECT 1.0MF 20% 50V
C29	1-162-516-11	(WG,IT)...CERAMIC CHIP 100PF 10% 50V
C30	1-124-791-11	ELECT 1.0MF 20% 50V
C31	1-124-902-00	ELECT 0.47MF 20% 50V
C32	1-124-463-00	ELECT 0.1MF 20% 50V
C33	1-130-481-00	FILM 0.0068MF 5% 50V
C34	1-123-382-00	ELECT 3.3MF 20% 50V
C35	1-130-481-00	FILM 0.0068MF 5% 50V
C36	1-123-382-00	ELECT 3.3MF 20% 50V
C37	1-123-875-11	ELECT 10MF 20% 50V
C39	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C40	1-124-463-00	ELECT 0.1MF 20% 50V
C41	1-124-927-11	ELECT 4.7MF 20% 50V
C42	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C43	1-126-176-11	ELECT 220MF 20% 10V
C44	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C45	1-123-382-00	ELECT 3.3MF 20% 50V
C46	1-161-375-00	CERAMIC CHIP 0.0022MF 20% 25V
C47	1-163-170-00	(WG,IT)...CERAMIC CHIP 0.0047MF 20% 25V
C48	1-123-382-00	ELECT 3.3MF 20% 50V
C49	1-161-375-00	CERAMIC CHIP 0.0022MF 20% 25V
C50	1-163-170-00	(WG,IT)...CERAMIC CHIP 0.0047MF 20% 25V
C51	1-124-477-11	ELECT 47MF 20% 16V
C53	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C54	1-101-005-00	(WG,IT)...CERAMIC 0.022MF 50V
C61	1-163-063-00	CERAMIC MELF 0.022MF 25V
C62	1-163-063-00	CERAMIC MELF 0.022MF 25V
C63	1-163-063-00	CERAMIC MELF 0.022MF 25V
C64	1-163-063-00	CERAMIC MELF 0.022MF 25V
C65	1-163-063-00	CERAMIC MELF 0.022MF 25V
C66	1-163-063-00	CERAMIC MELF 0.022MF 25V
C67	1-102-120-00	CERAMIC 0.0018MF 10% 50V
C68	1-163-111-11	CERAMIC CHIP 0.0015MF 20% 25V
C69	1-163-063-00	CERAMIC MELF 0.022MF 25V
C70	1-163-063-00	CERAMIC MELF 0.022MF 25V
C71	1-163-063-00	CERAMIC MELF 0.022MF 25V
C72	1-163-063-00	CERAMIC MELF 0.022MF 25V
C73	1-163-063-00	CERAMIC MELF 0.022MF 25V
C81	1-102-961-00	CERAMIC 27PF 5% 50V
C82	1-102-961-00	CERAMIC 27PF 5% 50V
C83	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C84	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C85	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C86	1-124-477-11	ELECT 47MF 20% 16V
C87	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C88	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C101	1-124-925-11	ELECT 2.2MF 20% 50V
C102	1-124-463-00	ELECT 0.1MF 20% 50V
C103	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C104	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C105	1-124-477-11	ELECT 47MF 20% 16V
C106	1-136-173-00	MYLAR 0.47MF 5% 50V
C107	1-124-463-00	ELECT 0.1MF 20% 50V
C108	1-163-063-00	(WG,IT)...CERAMIC MELF 0.022MF 25V
CF1	1-567-389-11	FILTER, CERAMIC
CF2	1-567-389-11	FILTER, CERAMIC
CF3	1-567-389-11	(WG,IT)....FILTER, CERAMIC
CF21	1-577-075-11	OSCILLATOR, CERAMIC (19kHz)
CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)
CNJ1	*1-568-273-11	SOCKET, CONNECTOR 7P
CNJ3	*1-568-308-11	SOCKET, CONNECTOR 4P
CNJ4	1-568-269-11	SOCKET, CONNECTOR 3P
D61	8-719-912-20	DIODE 1SS120
FE1	1-463-857-11	(WG,IT)....FRONT END (FM)
FE1	1-463-862-21	(AEP,UK)...FRONT END (FM)
FE61	1-236-462-11	ENCAPSULATED COMPONENT (MW RF BLOCK)
FE62	1-236-463-11	ENCAPSULATED COMPONENT (LW RF BLOCK)
IC21	8-759-821-45	IC LA1851N
IC81	8-759-820-91	IC LC7218
L1	1-410-645-31	MICRO INDUCTOR 100UH
L2	1-410-645-31	(WG,IT)...MICRO INDUCTOR 100UH
L21	1-407-500-00	MICRO INDUCTOR 4.7UH
L61	1-410-525-11	MICRO INDUCTOR 220UH
LPF21	1-235-164-00	FILTER, LOW PASS
LPF22	1-235-164-00	FILTER, LOW PASS

TUNER SECTION

Ref.No.	Part No.	Description
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY
Q3	8-729-230-99	(WG,IT)...TRANSISTOR 2SC2669-OY
Q4	8-729-230-99	(WG,IT)...TRANSISTOR 2SC2669-OY
Q21	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q22	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q23	8-729-900-61	TRANSISTOR DTA114ES
Q24	8-729-900-80	TRANSISTOR DTC114ES
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q61	8-729-900-80	TRANSISTOR DTC114ES
Q62	8-729-900-80	TRANSISTOR DTC114ES
Q63	8-729-900-80	TRANSISTOR DTC114ES
Q64	8-729-820-24	TRANSISTOR 2SC3330-T
Q65	8-729-821-04	TRANSISTOR 2SA1317-STU
Q66	8-729-900-80	TRANSISTOR DTC114ES
Q81	8-729-900-61	TRANSISTOR DTA114ES
Q82	8-729-900-80	TRANSISTOR DTC114ES
Q83	8-729-202-67	TRANSISTOR 2SK246-GR3
Q84	8-729-107-84	TRANSISTOR 2SC3113A
Q85	8-729-202-67	TRANSISTOR 2SK246-GR3
Q86	8-729-107-84	TRANSISTOR 2SC3113A
R1	⚠.1-249-397-11	(WG,IT)....CARBON (SMALL)22 5% 1/4W F
R1	⚠.1-249-401-11	(AEP,UK)...CARBON (SMALL)47 5% 1/4W F
R3	1-249-329-11	CARBON MELF 330 5% 1/8W
R4	1-249-329-11	CARBON MELF 330 5% 1/8W
R5	1-249-329-11	CARBON MELF 330 5% 1/8W
R6	1-249-350-11	CARBON MELF 18K 5% 1/8W
R7	1-249-329-11	CARBON MELF 330 5% 1/8W
R8	1-249-332-11	CARBON MELF 560 5% 1/8W
R9	1-249-352-11	CARBON MELF 27K 5% 1/8W
R10	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R11	1-249-350-11	(WG,IT)...CARBON MELF 18K 5% 1/8W
R12	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R13	1-249-334-11	(WG,IT)...CARBON MELF 820 5% 1/8W
R14	1-249-352-11	(WG,IT)...CARBON MELF 27K 5% 1/8W
R15	1-249-347-11	(WG,IT)...CARBON MELF 10K 5% 1/8W
R16	1-249-343-11	(WG,IT)...CARBON MELF 4.7K 5% 1/8W
R21	⚠.1-249-404-00	CARBON (SMALL)82 5% 1/4W F
R22	⚠.1-249-430-11	CARBON (SMALL)12K 5% 1/4W F
R23	1-249-335-11	CARBON MELF 1K 5% 1/8W
R24	1-249-353-11	CARBON MELF 33K 5% 1/8W
R25	1-249-346-11	CARBON MELF 8.2K 5% 1/8W
R26	1-249-340-11	(WG,IT)...CARBON MELF 2.7K 5% 1/8W
R27	⚠.1-249-432-11	CARBON (SMALL)18K 5% 1/4W F
R29	1-249-347-11	CARBON MELF 10K 5% 1/8W
R31	1-249-331-11	CARBON MELF 470 5% 1/8W
R32	1-249-347-11	CARBON MELF 10K 5% 1/8W
R33	1-249-347-11	CARBON MELF 10K 5% 1/8W
R34	⚠.1-249-437-11	CARBON (SMALL)47K 5% 1/4W F
R35	1-249-355-11	CARBON MELF 47K 5% 1/8W
R37	1-249-359-11	CARBON MELF 100K 5% 1/8W
R38	1-249-363-11	CARBON MELF 220K 5% 1/8W
R39	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R40	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R41	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R42	1-249-359-11	CARBON MELF 100K 5% 1/8W
R43	1-249-363-11	CARBON MELF 220K 5% 1/8W
R44	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R45	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R46	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R47	⚠.1-249-409-11	CARBON (SMALL)220 5% 1/4W F
R61	1-249-359-11	CARBON MELF 100K 5% 1/8W
R62	1-249-355-11	CARBON MELF 47K 5% 1/8W
R64	1-249-351-11	CARBON MELF 22K 5% 1/8W
R65	1-249-355-11	CARBON MELF 47K 5% 1/8W
R66	1-215-493-00	CARBON MELF 1M 5% 1/5W
R67	1-249-359-11	CARBON MELF 100K 5% 1/8W
R68	1-249-352-11	CARBON MELF 27K 5% 1/8W
R69	1-249-351-11	CARBON MELF 22K 5% 1/8W
R70	1-249-331-11	CARBON MELF 470 5% 1/8W
R71	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R72	1-249-351-11	CARBON MELF 22K 5% 1/8W
R73	1-249-347-11	CARBON MELF 10K 5% 1/8W
R74	1-249-347-11	CARBON MELF 10K 5% 1/8W
R75	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R81	1-249-335-11	CARBON MELF 1K 5% 1/8W
R82	1-249-335-11	CARBON MELF 1K 5% 1/8W
R83	1-249-335-11	CARBON MELF 1K 5% 1/8W
R84	1-249-335-11	CARBON MELF 1K 5% 1/8W
R85	1-249-347-11	CARBON MELF 10K 5% 1/8W
R86	1-249-335-11	CARBON MELF 1K 5% 1/8W
R87	1-249-347-11	CARBON MELF 10K 5% 1/8W
R88	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R89	1-249-335-11	CARBON MELF 1K 5% 1/8W
R90	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R91	1-249-335-11	CARBON MELF 1K 5% 1/8W
R92	⚠.1-249-401-11	CARBON (SMALL)47 5% 1/4W F
R101	1-249-341-11	CARBON MELF 3.3K 5% 1/8W
R102	1-249-332-11	CARBON MELF 560 5% 1/8W
R103	1-249-335-11	CARBON MELF 1K 5% 1/8W
R104	1-249-328-11	CARBON MELF 270 5% 1/8W
R105	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R106	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R107	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R108	1-249-323-11	CARBON MELF 100 5% 1/8W
R109	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R110	⚠.1-249-405-11	CARBON (SMALL)100 5% 1/4W F
R111	1-249-341-11	CARBON MELF 3.3K 5% 1/8W
R112	1-249-332-11	CARBON MELF 560 5% 1/8W
R113	1-249-335-11	CARBON MELF 1K 5% 1/8W
R114	1-249-328-11	CARBON MELF 270 5% 1/8W
R115	1-249-351-11	CARBON MELF 22K 5% 1/8W
R116	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R117	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R118	1-249-323-11	CARBON MELF 100 5% 1/8W
RV21	1-238-013-11	(AEP,UK)...RES, ADJ, CARBON 2.2K
RV21	1-238-015-11	(WG,IT)....RES, ADJ, CARBON 4.7K
RV22	1-238-017-11	RES, ADJ, CARBON 22K
RV24	1-238-017-11	(AEP,UK)...RES, ADJ, CARBON 22K
RV24	1-238-019-11	(WG,IT)....RES, ADJ, CARBON 47K
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T23	1-236-465-11	(WG,IT)...ENCAPSULATED COMPONENT
TM1	*1-537-138-31	TERMINAL BOARD (ANT)(ANTENNA)
TP1	*1-560-060-00	PIN, CONNECTOR 2P
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

EXCEPT TUNER SECTION

Ref.No.	Part No.	Description			
902	*A-4334-501-A	(AEP).....MOUNTED PCB, POWER			
	*A-4334-503-A	(WG,IT)...MOUNTED PCB, POWER			
	*A-4334-822-A	(UK)......MOUNTED PCB, POWER			
903	*A-4334-497-A	(AEP)...MOUNTED PCB, PANEL			
	*A-4334-499-A	(WG)....MOUNTED PCB, PANEL			
	*A-4334-500-A	(IT)....MOUNTED PCB, PANEL			
	*A-4334-821-A	(UK)....MOUNTED PCB, PANEL			
904	1-575-666-11	WIRE, FLAT TYPE (11 CORE)			
C601	1-162-200-31	CERAMIC	11PF	5%	50V
C602	1-162-200-31	CERAMIC	11PF	5%	50V
C603	1-126-094-11	ELECT	4.7MF	20%	25V
C604	1-161-379-00	CERAMIC	0.01MF	30%	16V
C605	1-161-379-00	CERAMIC	0.01MF	30%	16V
C606	1-126-177-11	ELECT	100MF	20%	6.3V
C607	1-123-357-00	ELECT	22MF	20%	35V
C608	1-161-379-00	CERAMIC	0.01MF	30%	16V
C609	1-126-157-11	ELECT	10MF	20%	16V
C701	1-161-379-00	CERAMIC	0.01MF	30%	16V
C702	1-162-284-31	CERAMIC	150PF	10%	50V
C703	1-162-284-31	CERAMIC	150PF	10%	50V
C704	1-123-875-11	ELECT	10MF	20%	50V
C705	1-161-379-00	CERAMIC	0.01MF	30%	16V
C801	1-161-744-00	CERAMIC	0.01MF		400V
C802	1-101-004-00	CERAMIC	0.01MF		50V
C803	1-101-004-00	CERAMIC	0.01MF		50V
C804	1-126-105-11	ELECT	1000MF	20%	35V
C805	1-161-379-00	CERAMIC	0.01MF	30%	16V
C806	1-124-477-11	ELECT	47MF	20%	16V
C807	1-124-477-11	ELECT	47MF	20%	16V
C808	1-124-927-11	ELECT	4.7MF	20%	50V
C809	1-161-379-00	CERAMIC	0.01MF	30%	16V
C810	1-124-918-11	ELECT	47MF	20%	63V
C811	1-124-918-11	ELECT	47MF	20%	63V
C812	1-124-910-11	ELECT	47MF	20%	50V
C813	1-123-875-11	ELECT	10MF	20%	50V
CN601	*1-568-854-11	SOCKET, CONNECTOR 11P			
CN602	*1-568-273-11	SOCKET, CONNECTOR 7P			
CN701	*1-569-625-11	SOCKET, CONNECTOR 3P(SYSTEM CONTROL 2)			
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P			
CN802	*1-568-308-11	SOCKET, CONNECTOR 4P			
CN803	*1-568-830-11	SOCKET, CONNECTOR 11P			
CN804	*1-564-321-00	PIN, CONNECTOR 2P			
CN901	*1-569-625-11	SOCKET, CONNECTOR 3P(SYSTEM CONTROL 1)			
CN902	1-568-269-11	SOCKET, CONNECTOR 3P			

Ref.No.	Part No.	Description	
CNJ801	⚠1-526-751-00	(UK)..........OUTLET, AC	
CNJ801	⚠1-526-794-11	(AEP,WG,IT)...OUTLET, AC	
CNJ802	⚠1-526-751-00	(UK)..........OUTLET, AC	
CNJ802	⚠1-526-794-11	(AEP,WG,IT)...OUTLET, AC	
CNP801	⚠1-575-651-11	(AEP,WG,IT)...CORD, POWER	
CNP801	⚠1-575-652-11	(UK)..........CORD, POWER	
D601	8-719-912-20	DIODE 1SS120	
D602	8-719-912-20	DIODE 1SS120	
D603	8-719-912-20	DIODE 1SS120	
D604	8-719-912-20	DIODE 1SS120	
D605	8-719-912-20	(IT)...DIODE 1SS120	
D609	8-719-912-20	DIODE 1SS120	
D612	8-719-912-20	DIODE 1SS120	
D613	8-719-912-20	DIODE 1SS120	
D614	8-719-912-20	DIODE 1SS120	
D615	8-719-912-20	DIODE 1SS120	
D616	8-719-912-20	DIODE 1SS120	
D617	8-719-912-20	DIODE 1SS120	
D618	8-719-912-20	DIODE 1SS120	
D701	8-719-912-20	DIODE 1SS120	
D702	8-719-912-20	DIODE 1SS120	
D801	8-719-912-20	DIODE 1SS120	
D802	8-719-200-77	DIODE 10E2N	
D803	8-719-200-77	DIODE 10E2N	
D804	8-719-200-77	DIODE 10E2N	
D805	8-719-200-77	DIODE 10E2N	
D806	8-719-934-22	DIODE HZS30-2L	
D807	8-719-014-66	DIODE UZP-5.6B	
F801	⚠.1-532-286-00	FUSE, TIME-LAG (2.5A)	
FH801	1-533-213-31	HOLDER, FUSE	
FH802	1-533-213-31	HOLDER, FUSE	
FL601	1-519-595-11	INDICATOR TUBE, FLUORESCENT	
IC601	8-759-239-54	IC TMP47C870N-4661	
IC602	8-749-920-83	IC GP1U52XB	
IC701	8-759-634-73	IC M50760-141P	
IC801	8-759-820-09	IC LA5667	
L601	1-410-521-11	INDUCTOR	100UH
L701	1-410-521-11	INDUCTOR	100UH
PT801	⚠.1-449-979-11	TRANSFORMER, POWER	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-900-80	TRANSISTOR DTC114ES	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

EXCEPT TUNER SECTION

Ref.No.	Part No.	Description			
Q801	8-729-140-04	TRANSISTOR 2SB1116A-L			
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q803	8-729-140-04	TRANSISTOR 2SB1116A-L			
R601	1-249-441-11	CARBON	100K	5%	1/4W
R602	1-249-425-11	CARBON	4.7K	5%	1/4W
R603	1-249-441-11	CARBON	100K	5%	1/4W
R604	1-249-441-11	CARBON	100K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-249-429-11	CARBON	10K	5%	1/4W
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-429-11	CARBON	10K	5%	1/4W
R612	1-249-429-11	CARBON	10K	5%	1/4W
R613	1-249-429-11	CARBON	10K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-423-11	CARBON	3.3K	5%	1/4W
R617	1-249-429-11	CARBON	10K	5%	1/4W
R618	1-249-429-11	CARBON	10K	5%	1/4W
R619	1-249-429-11	CARBON	10K	5%	1/4W
R620	1-249-429-11	CARBON	10K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-405-11	CARBON	100	5%	1/4W
R624	1-249-417-11	CARBON	1K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
R626	1-249-433-11	CARBON	22K	5%	1/4W
R701	1-249-425-11	CARBON	4.7K	5%	1/4W
R702	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-393-11	CARBON	10	5%	1/4W
R704	1-249-425-11	CARBON	4.7K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-393-11	CARBON	10	5%	1/4W
R707	1-247-903-00	CARBON	1M	5%	1/4W
R708	1-249-429-11	CARBON	10K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W
R801	1-247-743-11	CARBON	220	5%	1/2W
R802	1-249-429-11	CARBON	10K	5%	1/4W
R803	1-249-425-11	CARBON	4.7K	5%	1/4W
R804	1-249-425-11	CARBON	4.7K	5%	1/4W
R805	1-249-417-11	CARBON	1K	5%	1/4W
R806	1-249-433-11	CARBON	22K	5%	1/4W

Ref.No.	Part No.	Description				
R807 ⚠	1-247-702-11	CARBON	150	5%	1/4W	F
R808	1-249-425-11	CARBON	4.7K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
RY801	1-515-720-11	RELAY				
S601	1-554-303-21	SWITCH, KEY BOARD (1)				
S602	1-554-303-21	SWITCH, KEY BOARD (2)				
S603	1-554-303-21	SWITCH, KEY BOARD (3)				
S604	1-554-303-21	SWITCH, KEY BOARD (4)				
S605	1-554-303-21	SWITCH, KEY BOARD (5)				
S606	1-554-303-21	SWITCH, KEY BOARD (6)				
S607	1-554-303-21	SWITCH, KEY BOARD (7)				
S608	1-554-303-21	SWITCH, KEY BOARD (8)				
S609	1-554-303-21	SWITCH, KEY BOARD (9)				
S610	1-554-303-21	SWITCH, KEY BOARD (10)				
S611	1-554-303-21	SWITCH, KEY BOARD (A.SHIFT)				
S612	1-554-303-21	SWITCH, KEY BOARD (B.SHIFT)				
S613	1-554-303-21	SWITCH, KEY BOARD (C.SHIFT)				
S614	1-554-303-21	SWITCH, KEY BOARD (+.TUNING)				
S615	1-554-303-21	SWITCH, KEY BOARD (-.TUNING)				
S616	1-554-303-21	SWITCH, KEY BOARD (BAND)				
S617	1-554-303-21	SWITCH, KEY BOARD (MEMORY)				
S618	1-554-303-21	SWITCH, KEY BOARD (MEMORY SCAN)				
S619	1-554-303-21	SWITCH, KEY BOARD (AUTO)				
S620	1-554-303-21	SWITCH, KEY BOARD (ONECE)				
S621	1-554-303-21	SWITCH, KEY BOARD (DAILY)				
S622	1-554-303-21	SWITCH, KEY BOARD (NEXT)				
S623	1-554-303-21	SWITCH, KEY BOARD (+.TIME)				
S624	1-554-303-21	SWITCH, KEY BOARD (-.TIME)				
S625	1-554-303-21	SWITCH, KEY BOARD (CLOSE)				
S626	1-554-303-21	SWITCH, KEY BOARD (SPEEP)				
S627	1-554-303-21	SWITCH, KEY BOARD (CONTROL)				
S628	1-554-303-21	SWITCH, KEY BOARD (CLEAR)				
S629	1-554-303-21	SWITCH, KEY BOARD (BACK)				
S630	1-554-303-21	SWITCH, KEY BOARD (POWER)				
S631	1-554-303-21	SWITCH, KEY BOARD (FREQUENCY/TIME)				
S632	1-554-303-21	SWITCH, KEY BOARD (MODE)				
X601	1-567-821-21	VIBRATOR, CRYSTAL (4.194304MHz)				
X701	1-578-699-11	OSCILLATOR, CERAMIC (800kHz)				

ACCESSORY & PACKING MATERIAL

4-920-940-01	SHEET (A), PROTECTION
*4-934-860-01	CUSHION

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

English
90E1651-1
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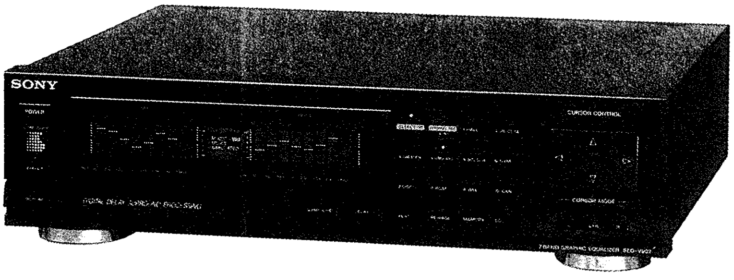
Sony Corporation
Audio Group

SEQ-V902

SERVICE MANUAL

AEP Model
UK Model
E Model



SPECIFICATIONS

Input	LINE IN: Phono jacks, 245 mV (−10 dB), 50 kohms
Output	LINE OUT: Phono jacks, 245 mV (−10 dB), Load impedance: more than 10 kohms
Graphic equalizer	Boost/cut range: ± 10 dB Center frequencies: 63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, 15 kHz
Frequency response (with EQUALIZATION OFF)	LINE IN: 20 Hz to 50 kHz, $^{+0}_{-1.5}$ dB
Harmonic distortion	LINE IN: Less than 0.01 % (at 1kHz, 1V output)
Signal-to-noise ratio (with EQUALIZATION OFF)	LINE IN: Better than 100 dB (A network, 1V output)
Power requirements	AEP model: 220 V AC, 50/60 Hz UK model: 240 V AC, 50 Hz E model: 110 - 120 or 220 - 240 V AC adjustable, 50/60 Hz
Power consumption	15 W
AC outlet	100 W max. unswitched
Dimensions	Approx. 355 × 92 × 312 mm (w/h/d) (14 × 3⅝ × 12⅜ inches)
Weight	Approx. 2.7 kg (5 lb 15 oz)
Accessories supplied	Connecting cords (2)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

SAFETY-RELATED COMPONENT WARNING!!

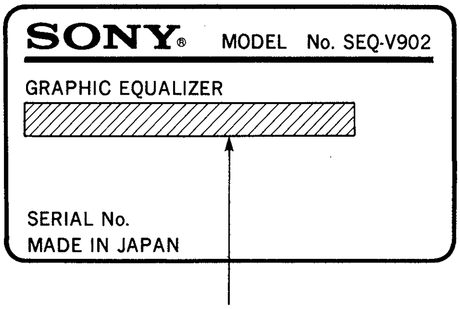
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

GRAPHIC EQUALIZER

SONY®

MODEL IDENTIFICATION

— Specification Label —



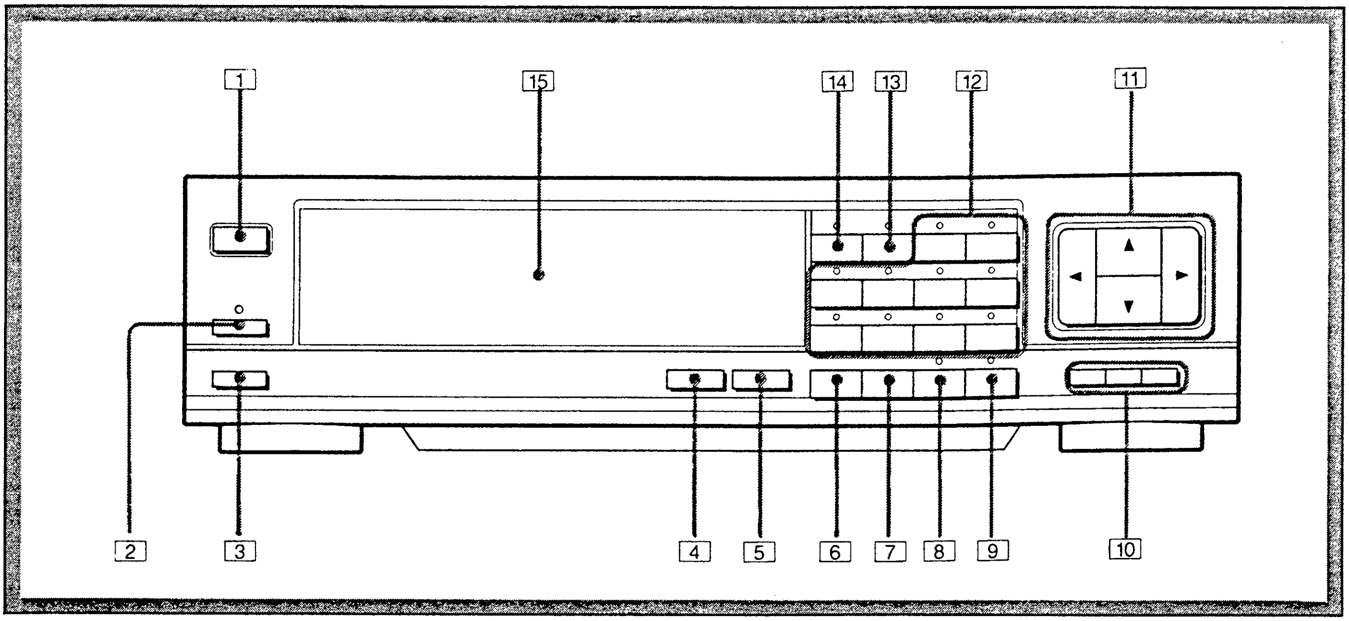
SONY® MODEL No. SEQ-V902
GRAPHIC EQUALIZER

SERIAL No.
MADE IN JAPAN

AEP Model: AC: 220V—50/60Hz
UK Model: AC: 240V—50/60Hz
E, Saudi Arabia Model: AC: 120/220/240V—50/60Hz
West Germany Model: AC: 220V—50/60Hz

SECTION 1
GENERAL

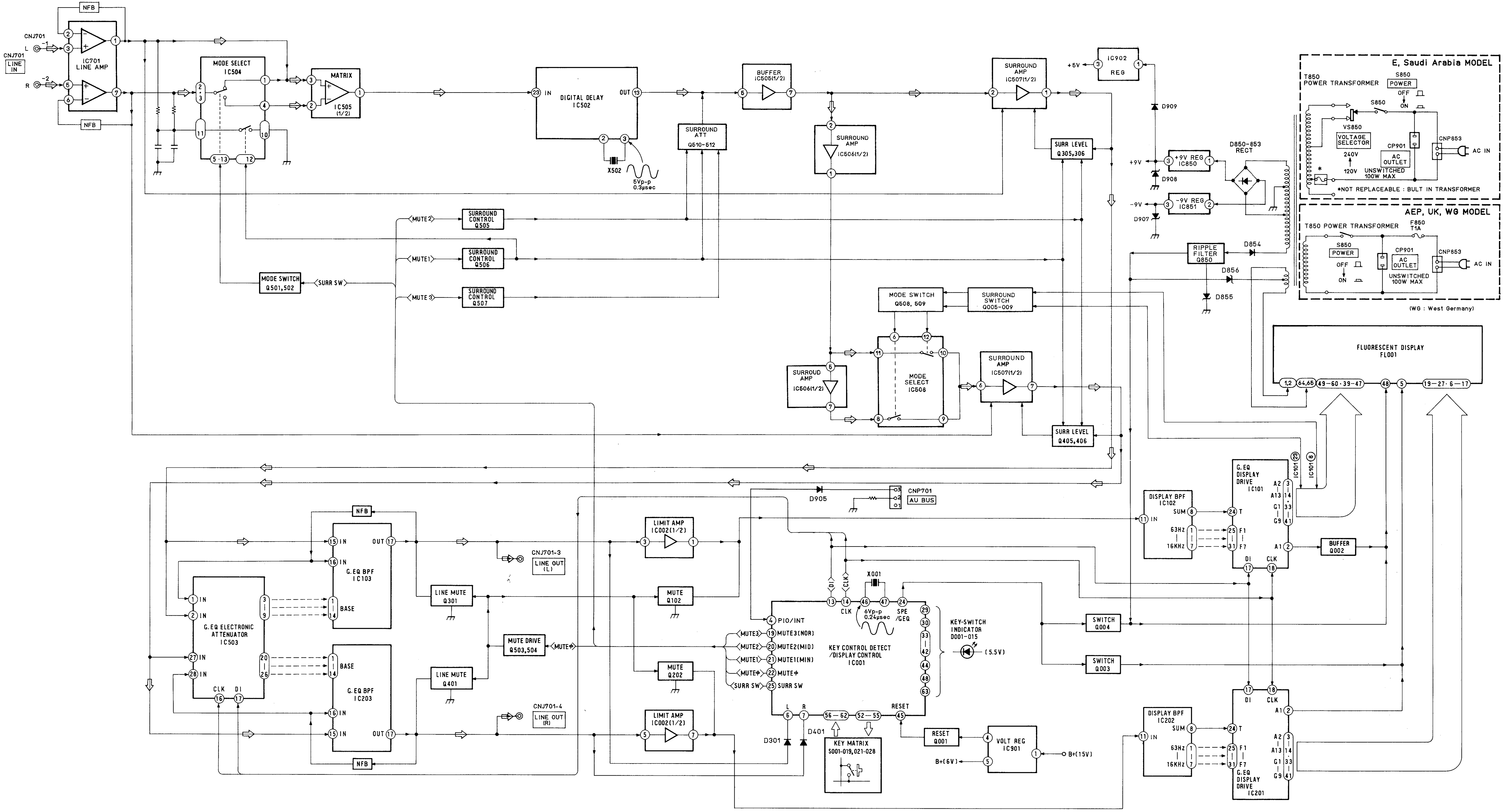
1-1. LOCATION OF CONTROLS



1 POWER switch
2 EFFECT button and indicator
3 DISPLAY button
4 SURROUND button
5 DELAY button
6 FLAT button
7 REVERSE button
8 MEMORY button and indicator
9 DSC (Dynamic Sound Control) button and indicator
10 L/L+R/R buttons
11 CURSOR MODE buttons
12 Numeric buttons and indicators
13 PERSONAL FILE button and indicator
14 SELECT 10 button and indicator
15 Display window

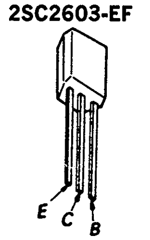
SECTION 2
DIAGRAMS

2-1. BLOCK DIAGRAM

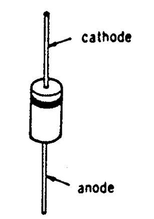

NFB
CNJ701
L
CNJ701
LINE IN
R
IC701 LINE AMP
MODE SELECT IC504
MATRIX IC505 (1/2)
DIGITAL DELAY IC502
IN
OUT
X502
5Vp-p 0.3μsec
SURROUND ATT Q510-512
BUFFER IC505(1/2)
SURROUND AMP IC506(1/2)
SURROUND AMP IC507(1/2)
SURR LEVEL Q305,306
IC902 REG
+5V
D909
+9V
+9V REG IC850
D908
-9V
-9V REG IC851
D907
D850-853 RECT
RIPPLE FILTER Q850
D854
D856
D855
MUTE2
SURROUND CONTROL Q505
MUTE1
SURROUND CONTROL Q506
MUTE3
SURROUND CONTROL Q507
MODE SWITCH Q501,502
SURR SW
MODE SWITCH Q508, 509
SURROUND SWITCH Q005-009
SURROUD AMP IC506(1/2)
MODE SELECT IC508
SURROUND AMP IC507(1/2)
SURR LEVEL Q405,406
E, Saudi Arabia MODEL
T850 POWER TRANSFORMER
S850 POWER
OFF
ON
VS850 VOLTAGE SELECTOR
240V
120V
CP901 AC OUTLET
UNSWITCHED 100W MAX
CNP853
AC IN
*NOT REPLACEABLE : BULT IN TRANSFORMER
AEP, UK, WG MODEL
T850 POWER TRANSFORMER
F850 T1A
(WG : West Germany)
FLUORESCENT DISPLAY FL001
1,2
64,65
49~60·39~47
48
5
19~27·6~17
D905
CNP701 AU BUS
NFB
G.EQ BPF IC103
IN
OUT
BASE
CNJ701-3 LINE OUT (L)
LIMIT AMP IC002(1/2)
LINE MUTE Q301
MUTE Q102
G.EQ ELECTRONIC ATTENUATOR IC503
CLK
DI
MUTE DRIVE Q503,504
MUTE⊕
G.EQ BPF IC203
LINE MUTE Q401
MUTE Q202
CNJ701-4 LINE OUT (R)
LIMIT AMP IC002(1/2)
X001
6Vp-p 0.24μsec
P10/INT
MUTE3(NOR)
MUTE2(MID)
MUTE1(MIN)
MUTE⊕
SURR SW
SPE /GEQ
KEY CONTROL DETECT /DISPLAY CONTROL IC001
KEY-SWITCH INDICATOR D001-015
(5.5V)
RESET
D301
D401
KEY MATRIX S001-019,021-028
RESET Q001
VOLT REG IC901
B+(6V)
B+(15V)
DISPLAY BPF IC102
SUM
63Hz
16KHz
G.EQ DISPLAY DRIVE IC101
IC101 (23)
IC101 (6)
BUFFER Q002
SWITCH Q004
SWITCH Q003
DISPLAY BPF IC202
G.EQ DISPLAY DRIVE IC201

2-2. SEMICONDUCTOR LEAD LAYOUTS

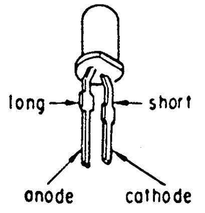
DTA114ES
DTC114ES
2SC2603-EF



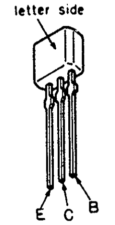
UZP6.8BC


cathode
anode

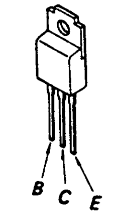
SEL2210S-C


long
short
anode
cathode

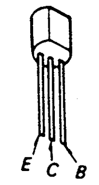
2SA1175-HFE


letter side
E
C
B

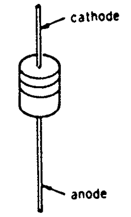
2SB1187-EF



2SC3623A-LK



HZS6A1L
HZS6B1L
HZS30-2L
UZL-7M1
ISS120
11ES2

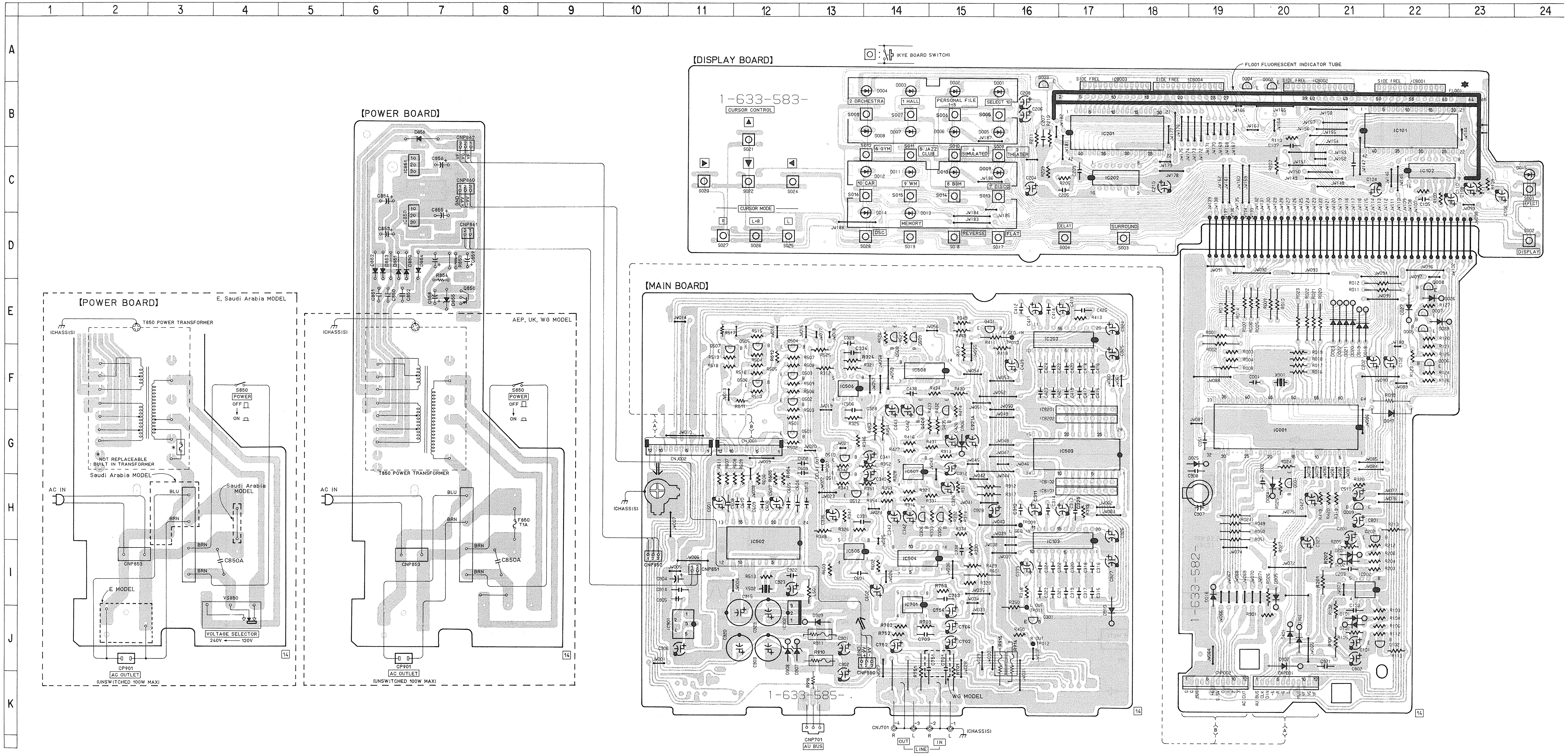

cathode
anode

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D001	B-16	IC101	B-22
D002	B-15	IC102	C-22
D003	B-14	IC103	I-16
D004	B-14	IC201	B-17
D005	B-16	IC202	C-17
D006	B-15	IC203	E-16
D007	B-14	IC502	I-12
D008	B-14	IC503	G-17
D009	C-16	IC504	I-14
D010	C-15	IC505	I-13
D011	C-14	IC506	F-13
D012	C-14	IC507	G-14
D013	C-14	IC508	F-14
D014	C-14	IC701	I-14
D015	C-24	IC850	C-7
D016	I-19	IC851	C-7
D017	G-22	IC901	J-11
D018	E-21	IC902	J-12
D019	E-21		
D020	E-21	Q001	H-20
D021	E-21	Q002	B-20
D022	E-21	Q003	B-16
D023	E-21	Q004	B-19
D024	H-20	Q005	E-22
D025	G-19	Q006	F-22
D026	E-22	Q007	E-22
D027	E-22	Q008	E-22
D028	E-22	Q009	H-21
D101	J-21	Q102	J-21
D102	J-21	Q202	H-21
D201	I-21	Q301	J-16
D202	I-21	Q305	H-15
D301	J-20	Q306	H-14
D401	J-20	Q401	E-15
D850	D-6	Q405	G-15
D851	D-6	Q406	G-14
D852	D-6	Q501	G-12
D853	D-6	Q502	F-12
D854	D-7	Q503	F-12
D855	E-7	Q504	F-12
D856	B-7	Q505	F-12
D902	J-20	Q506	F-12
D905	I-20	Q507	F-11
D906	G-15	Q508	E-14
D907	J-12	Q509	E-14
D908	J-12	Q510	G-13
D909	J-13	Q511	H-13
D910	J-17	Q512	H-13
		Q850	E-7
IC001	G-20		
IC002	I-21		

Note:
- ○—— : parts extracted from the component side.
- WG : West Germany

2-3. PRINTED WIRING BOARDS



[DISPLAY BOARD]
1-633-583-
CURSOR CONTROL
CURSOR MODE
(KYE BOARD SWITCH)
FL001 FLUORESCENT INDICATOR TUBE
[POWER BOARD]
E, Saudi Arabia MODEL
T850 POWER TRANSFORMER
NOT REPLACEABLE BUILT IN TRANSFORMER
Saudi Arabia MODEL
AC IN
E MODEL
VS850
VOLTAGE SELECTOR
240V 120V
S850 POWER OFF ON
CP901 AC OUTLET (UNSWITCHED 100W MAX)
AEP, UK, WG MODEL
F850 T1A
(CHASSIS)
[MAIN BOARD]
1-633-585-
WG MODEL
CNP701 AU BUS
CNJ701 OUT LINE IN
1-633-582-

2-4. SCHEMATIC DIAGRAM—MAIN SECTION—

IC502 VOLTAGE LIST

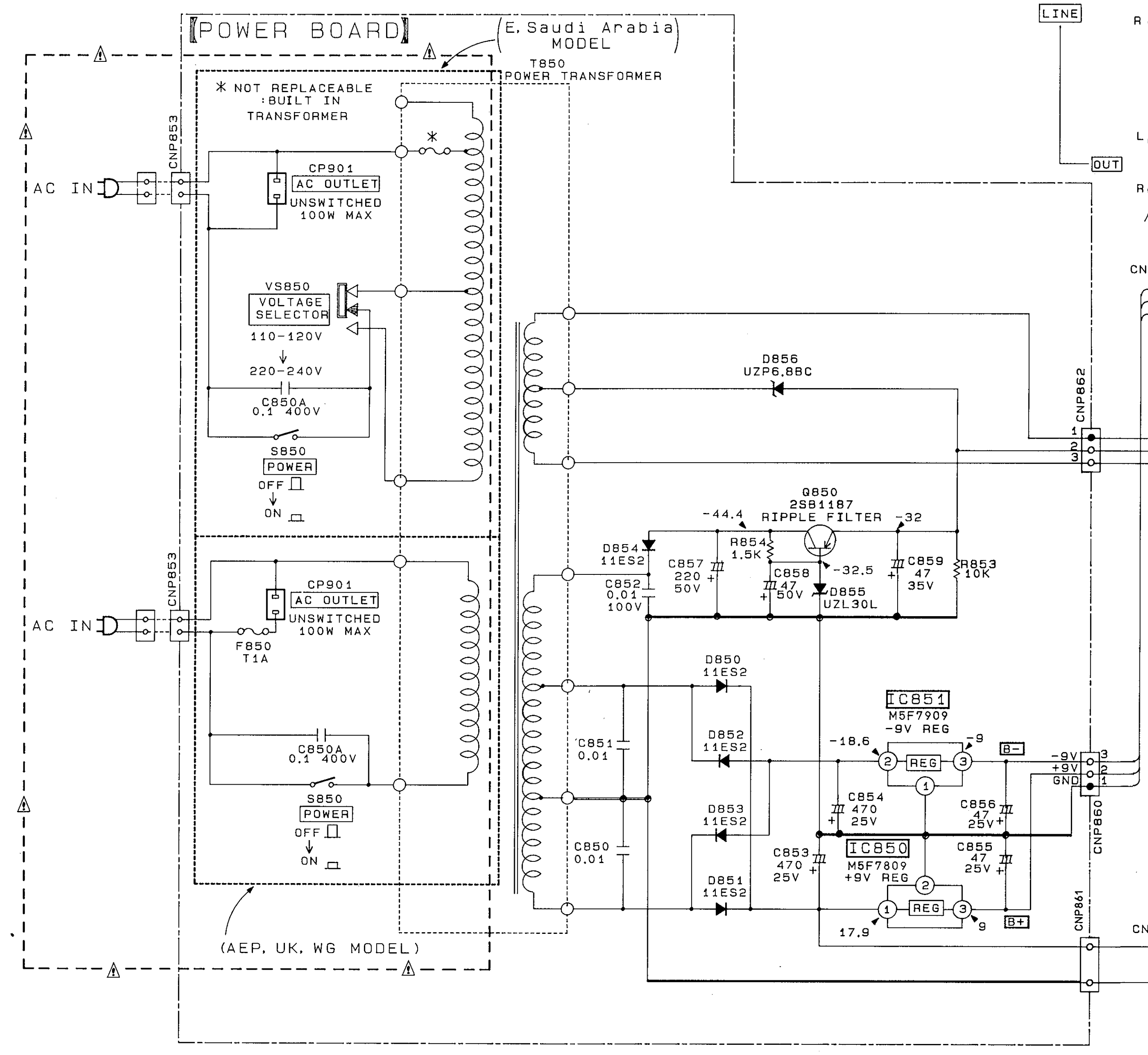
Pin NO	Voltage Value	Pin NO	Voltage Value
1	4.8	13	2.4
2	2.2	14	2.4
3	2.3	15	2.4
4	–	16	2.4
5	4.8	17	0.7
6	–	18	0.7
7	–	19	2.4
8	0	20	2.4
9	0	21	2.4
10	0	22	2.4
11	0	23	2.4
12	0	24	4.9

IC103 VOLTAGE LIST

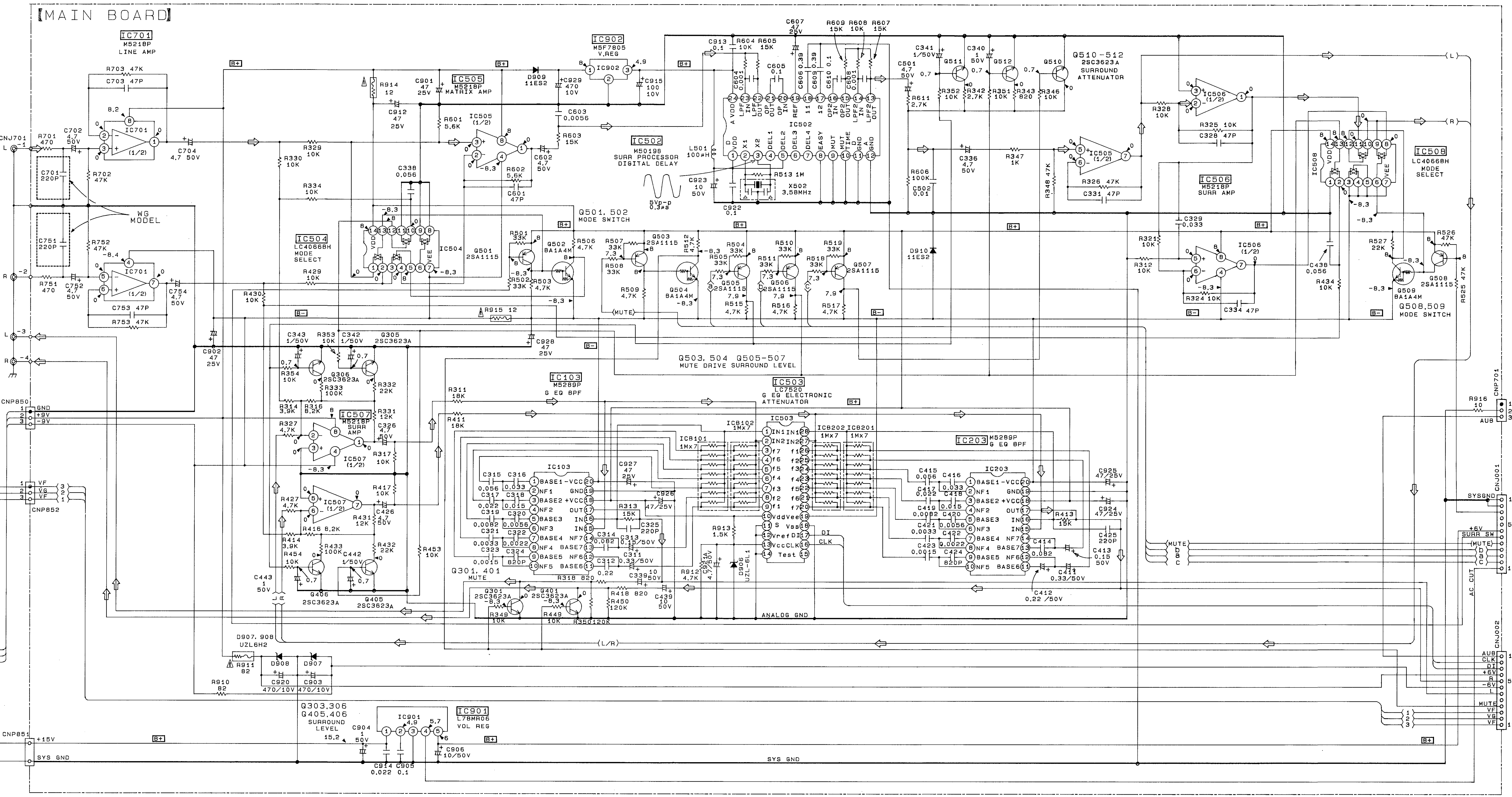
Pin NO	Voltage Value	Pin NO	Voltage Value
1	-0.3	11	-0.3
2	-1.0	12	-1.0
3	-0.3	13	-0.3
4	-1.0	14	-1.0
5	-0.3	15	0
6	-1.0	16	0
7	-0.3	17	0
8	-0.3	18	8
9	-1.0	19	0
10	-0.3	20	-8.3

IC503 VOLTAGE LIST

Pin NO	Voltage Value	Pin NO	Voltage Value
1	0	15	0
2	0	16	0
3	0	17	0
4	0	18	-8.3
5	0	19	0
6	0	20	0
7	0	21	0
8	0	22	0
9	0	23	0
10	8	24	0
11	0	25	0
12	0	26	0
13	5.3	27	0
14	0	28	0



【POWER BOARD】
(E, Saudi Arabia MODEL)
T850 POWER TRANSFORMER
* NOT REPLACEABLE BUILT IN TRANSFORMER
AC IN
CNP853
CP901 AC OUTLET UNSWITCHED 100W MAX
VS850 VOLTAGE SELECTOR
110–120V
220–240V
C850A 0.1 400V
S850 POWER
OFF
ON
F850 T1A
(AEP, UK, WG MODEL)
D856 UZP6.8BC
D854 11ES2
C857 220 50V
R854 1.5K
Q850 2SB1187 RIPPLE FILTER
D855 UZL30L
C858 47 25V
C859 47 35V
R853 10K
C852 0.01 100V
D850 11ES2
D852 11ES2
D853 11ES2
D851 11ES2
C851 0.01
C850 0.01
IC851 M5F7909 -9V REG
IC850 M5F7809 +9V REG
C854 470 25V
C853 470 25V
C856 47 25V
C855 47 25V
CNP852
CNP861
CNP862



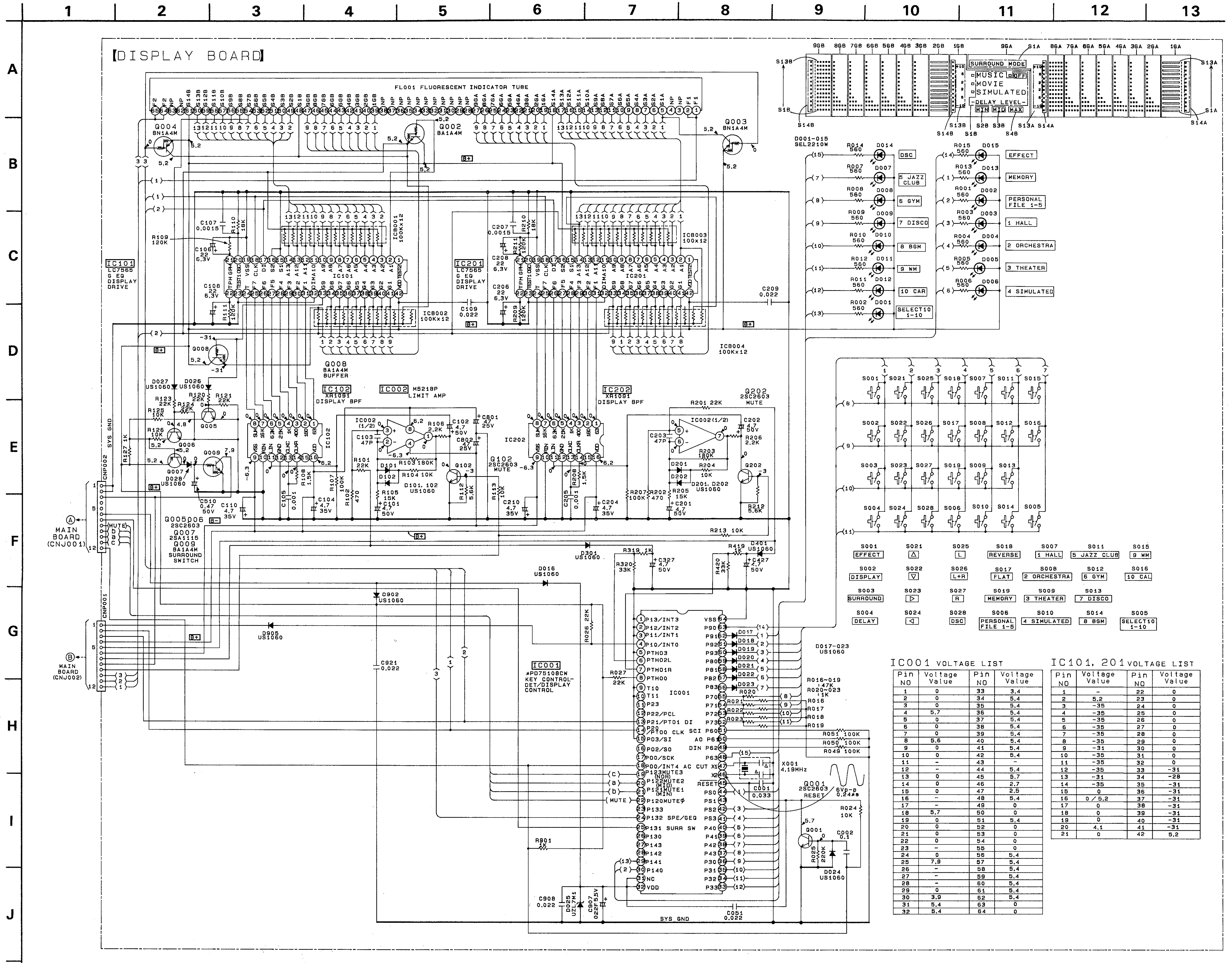
【MAIN BOARD】
IC701 M5218P LINE AMP
CNJ701
IN
LINE
OUT
WG MODEL
C701 220P
C751 220P
R701 470
R751 470
C702 4.7 50V
C752 4.7 50V
C703 47P
R703 47K
C753 47P
R753 47K
R702 47K
R752 47K
C704 4.7 50V
C754 4.7 50V
C902 47 25V
IC505 M5218P MATRIX AMP
IC502 M50195 SURR PROCESSOR DIGITAL DELAY
IC902 M5F7805 V.REG
IC504 LC4066BH MODE SELECT
Q501, 502 MODE SWITCH
Q501 2SA1115
Q502 BA1A4M
Q503, 504 Q505–507 MUTE DRIVE SURROUND LEVEL
Q510–512 2SC3623A SURROUND ATTENUATOR
IC506 M5218P SURR AMP
IC508 LC4066BH MODE SELECT
Q508, 509 MODE SWITCH
Q509 BA1A4M
Q508 2SA1115
L501 100μH
X502 3.58MHz
IC103 M5289P G EQ BPF
IC503 LC7520 G EQ ELECTRONIC ATTENUATOR
IC203 M5289P G EQ BPF
IC507 M5218P SURR AMP
Q305 2SC3623A
Q306 2SC3623A
Q405 2SC3623A
Q406 2SC3623A
Q303, 306 Q405, 406 SURROUND LEVEL
Q301, 401 MUTE
Q301 2SC3623A
Q401 2SC3623A
IC901 L78MR05 VOL REG
D907, 908 UZL6H2
D909 11ES2
D910 11ES2
C920 470/10V
C903 470/10V
SYS GND
ANALOG GND
CNP850
CNP851
CNJ001
CNJ002
CNP701 AU BAS
DISPLAY BOARD (CNP002)
DISPLAY BOARD (CNP001)
SYSGND
SURR SW
MUTE
AC CUT
(L)
(R)
(L/R)

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- fusible resistor.
- B+ : B+ Line
- B– : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Signal path.
  ⇨ : AUDIO
- WG: West Germany

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

2-5. SCHEMATIC DIAGRAM—DISPLAY SECTION—


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
[DISPLAY BOARD]
FL001 FLUORESCENT INDICATOR TUBE
Q004 BN1A4M
Q002 BA1A4M
Q003 BN1A4M
D001-015 SEL2210W
IC101 LC7565 D EQ DISPLAY DRIVE
IC201 LC7565 D EQ DISPLAY DRIVE
IC8001 100K×12
IC8002 100K×12
IC8003 100K×12
IC8004 100K×12
Q008 BA1A4M BUFFER
IC102 XR1091 DISPLAY BPF
IC002 M5218P LIMIT AMP
IC202 XR1091 DISPLAY BPF
Q202 2SC2603 MUTE
Q102 2SC2603 MUTE
Q005006 2SC2603
Q007 2SA1115
Q009 BA1A4M SURROUND SWITCH
Ⓐ MAIN BOARD (CNJ001)
Ⓑ MAIN BOARD (CNJ002)
CNP002
CNP001
SYS GND
IC001 μPD75108CW KEY CONTROL/DET/DISPLAY CONTROL
X001 4.19MHz
Q001 2SC2603 RESET
SURROUND MODE
MUSIC
MOVIE
SIMULATED
DELAY LEVEL
MIN MID MAX
DSC
5 JAZZ CLUB
6 GYM
7 DISCO
8 BGM
9 WM
10 CAR
SELECT10 1-10
EFFECT
MEMORY
PERSONAL FILE 1-5
1 HALL
2 ORCHESTRA
3 THEATER
4 SIMULATED
S001 EFFECT
S021 △
S025 L
S018 REVERSE
S007 1 HALL
S011 5 JAZZ CLUB
S015 9 WM
S002 DISPLAY
S022 ▽
S026 L+R
S017 FLAT
S008 2 ORCHESTRA
S012 6 GYM
S016 10 CAL
S003 SURROUND
S023 ▷
S027 R
S019 MEMORY
S009 3 THEATER
S013 7 DISCO
S004 DELAY
S024 ◁
S028 DSC
S006 PERSONAL FILE 1-5
S010 4 SIMULATED
S014 8 BGM
S005 SELECT10 1-10

IC001 VOLTAGE LIST

Pin NO	Voltage Value	Pin NO	Voltage Value
1	0	33	3.4
2	0	34	5.4
3	0	35	5.4
4	5.7	36	5.4
5	0	37	5.4
6	0	38	5.4
7	0	39	5.4
8	5.6	40	5.4
9	0	41	5.4
10	0	42	5.4
11	–	43	–
12	–	44	5.4
13	0	45	5.7
14	0	46	2.7
15	0	47	2.5
16	–	48	5.4
17	–	49	0
18	5.7	50	0
19	0	51	5.4
20	0	52	0
21	0	53	0
22	0	54	0
23	–	55	0
24	0	56	5.4
25	7.9	57	5.4
26	–	58	5.4
27	–	59	5.4
28	–	60	5.4
29	0	61	5.4
30	3.9	62	5.4
31	5.4	63	0
32	5.4	64	0

IC101, 201 VOLTAGE LIST

Pin NO	Voltage Value	Pin NO	Voltage Value
1	–	22	0
2	5.2	23	0
3	−35	24	0
4	−35	25	0
5	−35	26	0
6	−35	27	0
7	−35	28	0
8	−35	29	0
9	−31	30	0
10	−35	31	0
11	−35	32	0
12	−35	33	−31
13	−31	34	−28
14	−35	35	−31
15	0	36	−31
16	0 / 5.2	37	−31
17	0	38	−31
18	0	39	−31
19	0	40	−31
20	4.1	41	−31
21	0	42	5.2

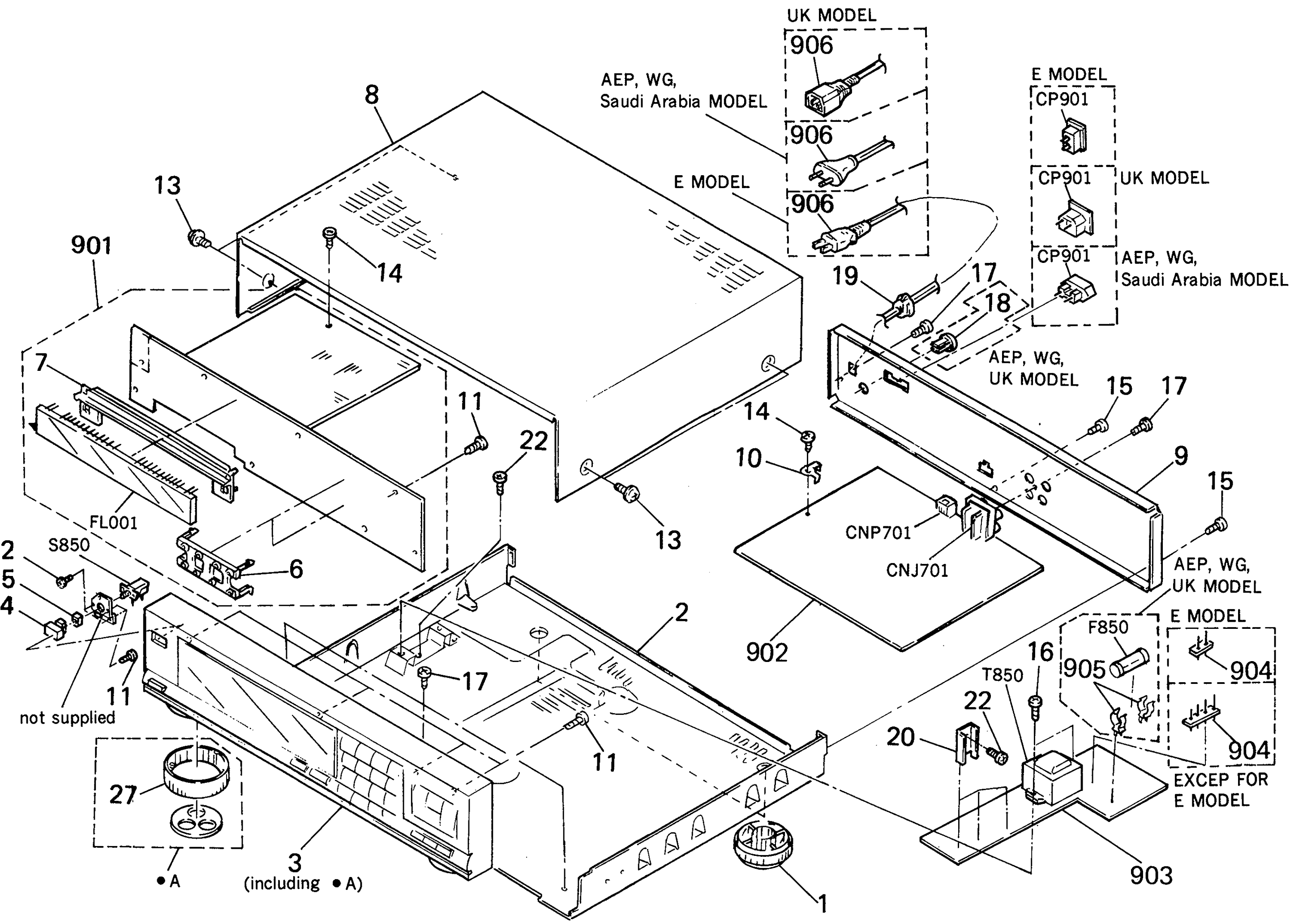
SECTION 3
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) ...KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- WG: West Germany


UK MODEL
906
AEP, WG, Saudi Arabia MODEL
906
E MODEL
906
E MODEL
CP901
CP901
UK MODEL
CP901
AEP, WG, Saudi Arabia MODEL
8
13
14
901
7
FL001
11
22
14
10
13
6
19
17
18
AEP, WG, UK MODEL
15
17
9
15
AEP, WG, UK MODEL
CNP701
CNJ701
22
S850
25
24
11
not supplied
2
17
902
E MODEL
F850
16
905
T850
22
904
20
904
EXCEP FOR E MODEL
11
27
•A
3
(including •A)
1
903

No.	Part No.	Description	Remarks
1	*4-934-883-01	FOOT	
2	*4-924-520-01	CHASSIS	
3	X-4917-295-1	PANEL ASSY, FRONT	
6	*4-934-823-01	HOLDER, LED	
7	*4-933-621-01	HOLDER (EQ), FL	
8	4-919-376-31	CASE	
9	*4-937-306-01	(AE1)............PANEL, BACK	
	*4-937-306-11	(AE2)............PANEL, BACK	
	*4-937-306-21	(UK)............PANEL, BACK	
	*4-937-306-31	(E).............PANEL, BACK	
	*4-937-306-41	(WG)............PANEL, BACK	
	*4-937-306-51	(Saudi Arabia)...PANEL, BACK	
10	*3-346-266-12	PLATE, GROUND	
11	4-928-635-01	SCREW +BV 2.6X8	
13	3-704-366-01	SCREW (CASE) (M3X8)	
14	7-682-547-04	SCREW +BVTT 3X6 (S)	
15	7-682-547-09	SCREW +BVTT 3X6 (S)	
16	3-703-249-31	SCREW, S TIGHT, +PTTWH (M3X10)	
17	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
18	4-935-307-03	(AEP,WG,UK)...HOLDER, PC BOARD	
19	*3-703-244-00	(EXCEPT E)....BUSHING (2104), CORD	
	*3-703-571-11	(E)...........BUSHING (4516), CORD	
20	*3-309-144-21	HEAT SINK	
22	7-682-548-04	SCREW +BVTT 3X8 (S)	
24	4-921-919-01	BUTTON (P)	
25	4-864-307-00	RING	
27	4-921-918-01	PLATE, ORNAMENTAL	
901	*A-4334-699-A	(AEP,WG,E,Saudi Arabia) ...MOUNTED PCB, DISPLAY	
	*A-4334-700-A	(UK)...........MOUNTED PCB, DISPLAY	
902	*A-4334-701-A	(AEP,E,Saudi Arabia)..MOUNTED PCB, MAIN	
	*A-4334-702-A	(WG).....MOUNTED PCB, MAIN	
	*A-4334-703-A	(UK).....MOUNTED PCB, MAIN	
903	*1-635-027-11	PC BOARD, POWER	
904 ⚠.	*1-535-139-00	(E).....BASE POST 22MM (10MM PITCH) 2P	
⚠.	*1-535-141-00	(AEP,WG,UK,Saudi Arabia) ...BASE POST 22MM (10MM PITCH) 4P	
905	1-533-213-31	(AEP,WG,UK)...HOLDER, FUSE	
906 ⚠.	1-575-651-11	(AEP,WG,Saudi Arabia)...CORD, POWER	
⚠.	1-575-656-11	(E)....................CORD, POWER	
⚠.	1-575-669-21	(UK)...................CORD, POWER	
CNJ701	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)	
CNP701	*1-565-561-11	PIN, CONNECTOR 3P (AU BUS)	
CP901⚠.	1-526-794-11	(AEP,WG,Saudi Arabia)...OUTLET, AC	
CP901⚠.	1-526-751-11	(UK)...................OUTLET, AC	
CP901⚠.	1-540-038-11	(E)......OUTLET, AC (NONPOLAR)(1P)	
F850 ⚠.	1-532-078-00	(AEP,WG,UK)...FUSE (T 1A)	
FL001	1-519-559-11	INDICATOR TUBE, FLUORESCENT	
S850 ⚠.	1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)	
T850 ⚠.	1-450-117-11	(UK)..............TRANSFORMER, POWER	
T850 ⚠.	1-450-118-11	(E,Saude Arabia)...TRANSFORMER, POWER	
T850 ⚠.	1-450-119-11	(AEP,WG)..........TRANSFORMER, POWER	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- WG: West Germany

Ref.No.	Part No.	Description			
901	*A-4334-699-A	(AEP,WG,E,Saudi Arabia) ...MOUNTED PCB, DISPLAY			
	*A-4334-700-A	(UK)............MOUNTED PCB, DISPLAY			
902	*A-4334-701-A	(AEP,E,Saudi Arabia)..MOUNTED PCB, MAIN			
	*A-4334-702-A	(WG)....MOUNTED PCB, MAIN			
	*A-4334-703-A	(UK)....MOUNTED PCB, MAIN			
903	*1-635-027-11	PC BOARD, POWER			
904	⚠.*1-535-139-00	(E).....BASE POST 22MM (10MM PITCH) 2P			
	⚠.*1-535-141-00	(AEP,WG,UK,Saudi Arabia) ...BASE POST 22MM (10MM PITCH) 4P			
905	1-533-213-31	(AEP,WG,UK)...HOLDER, FUSE			
906	⚠.1-575-651-11	(AEP,WG,Saudi Arabia)...CORD, POWER			
	⚠.1-575-656-11	(E)......................CORD, POWER			
	⚠.1-575-669-21	(UK).....................CORD, POWER			
C001	1-136-159-00	FILM	0.033MF	5%	50V
C002	1-136-165-00	FILM	0.1MF	5%	50V
C051	1-161-494-00	CERAMIC	0.022MF		25V
C101	1-124-045-00	ELECT	4.7MF	20%	50V
C102	1-124-045-00	ELECT	4.7MF	20%	50V
C103	1-162-215-31	CERAMIC	47PF	5%	50V
C104	1-126-094-11	ELECT	4.7MF	20%	35V
C105	1-130-471-00	MYLAR	0.001MF	5%	50V
C106	1-124-638-11	ELECT	22MF	20%	6.3V
C107	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C108	1-124-638-11	ELECT	22MF	20%	6.3V
C109	1-161-494-00	CERAMIC	0.022MF		25V
C110	1-126-094-11	ELECT	4.7MF	20%	35V
C201	1-124-045-00	ELECT	4.7MF	20%	50V
C202	1-124-045-00	ELECT	4.7MF	20%	50V
C203	1-162-215-31	CERAMIC	47PF	5%	50V
C204	1-126-094-11	ELECT	4.7MF	20%	35V
C205	1-130-471-00	MYLAR	0.001MF	5%	50V
C206	1-124-638-11	ELECT	22MF	20%	6.3V
C207	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C208	1-124-638-11	ELECT	22MF	20%	6.3V
C209	1-161-494-00	CERAMIC	0.022MF		25V
C210	1-126-094-11	ELECT	4.7MF	20%	35V
C311	1-124-252-00	ELECT	0.33MF	20%	50V
C312	1-136-169-00	FILM	0.22MF	5%	50V
C313	1-124-250-00	ELECT	0.15MF	20%	50V
C314	1-136-164-00	FILM	0.082MF	5%	50V
C315	1-136-162-00	FILM	0.056MF	5%	50V
C316	1-136-159-00	FILM	0.033MF	5%	50V
C317	1-136-157-00	FILM	0.022MF	5%	50V
C318	1-136-155-00	FILM	0.015MF	5%	50V
C319	1-130-482-00	MYLAR	0.0082MF	5%	50V
C320	1-130-480-00	MYLAR	0.0056MF	5%	50V
C321	1-130-477-00	MYLAR	0.0033MF	5%	50V
C322	1-130-475-00	MYLAR	0.0022MF	5%	50V
C323	1-130-473-00	MYLAR	0.0015MF	5%	50V
C324	1-130-470-00	MYLAR	820PF	5%	50V
C325	1-162-286-31	CERAMIC	220PF	10%	50V
C326	1-124-045-00	ELECT	4.7MF	20%	50V
C327	1-124-045-00	ELECT	4.7MF	20%	50V
C328	1-162-215-31	CERAMIC	47PF	5%	50V
C329	1-136-159-00	FILM	0.033MF	5%	50V
C331	1-162-215-31	CERAMIC	47PF	5%	50V
C334	1-162-215-31	CERAMIC	47PF	5%	50V
C336	1-124-045-00	ELECT	4.7MF	20%	50V
C338	1-136-162-00	FILM	0.056MF	5%	50V
C339	1-126-059-11	ELECT	10MF	20%	50V
C340	1-126-301-11	ELECT	1MF	20%	50V
C341	1-126-301-11	ELECT	1MF	20%	50V
C342	1-126-301-11	ELECT	1MF	20%	50V
C343	1-126-301-11	ELECT	1MF	20%	50V
C411	1-124-252-00	ELECT	0.33MF	20%	50V
C412	1-136-169-00	FILM	0.22MF	5%	50V
C413	1-124-250-00	ELECT	0.15MF	20%	50V
C414	1-136-164-00	FILM	0.082MF	5%	50V
C415	1-136-162-00	FILM	0.056MF	5%	50V
C416	1-136-159-00	FILM	0.033MF	5%	50V
C417	1-136-157-00	FILM	0.022MF	5%	50V
C418	1-136-155-00	FILM	0.015MF	5%	50V
C419	1-130-482-00	MYLAR	0.0082MF	5%	50V
C420	1-130-480-00	MYLAR	0.0056MF	5%	50V
C421	1-130-477-00	MYLAR	0.0033MF	5%	50V
C422	1-130-475-00	MYLAR	0.0022MF	5%	50V
C423	1-130-473-00	MYLAR	0.0015MF	5%	50V
C424	1-130-470-00	MYLAR	820PF	5%	50V
C425	1-162-286-31	CERAMIC	220PF	10%	50V
C426	1-124-045-00	ELECT	4.7MF	20%	50V
C427	1-124-045-00	ELECT	4.7MF	20%	50V
C438	1-136-162-00	FILM	0.056MF	5%	50V
C439	1-126-059-11	ELECT	10MF	20%	50V
C442	1-126-301-11	ELECT	1MF	20%	50V
C443	1-126-301-11	ELECT	1MF	20%	50V
C501	1-124-045-00	ELECT	4.7MF	20%	50V
C502	1-136-153-00	FILM	0.01MF	5%	50V
C510	1-126-300-11	ELECT	0.47MF	20%	50V

Ref.No.	Part No.	Description			
C601	1-162-215-31	CERAMIC	47PF	5%	50V
C602	1-124-045-00	ELECT	4.7MF	20%	50V
C603	1-130-480-00	MYLAR	0.0056MF	5%	50V
C604	1-162-294-31	CERAMIC	0.001MF	10%	50V
C605	1-136-165-00	FILM	0.1MF	5%	50V
C606	1-136-172-00	FILM	0.39MF	5%	50V
C607	1-124-910-11	ELECT	47MF	20%	25V
C608	1-162-294-31	CERAMIC	0.001MF	10%	50V
C609	1-136-172-00	FILM	0.39MF	5%	50V
C610	1-136-165-00	FILM	0.1MF	5%	50V
C701	1-162-286-31	(WG)...CERAMIC	220PF	10%	50V
C702	1-124-045-00	ELECT	4.7MF	20%	50V
C703	1-162-215-31	CERAMIC	47PF	5%	50V
C704	1-124-045-00	ELECT	4.7MF	20%	50V
C751	1-162-286-31	(WG)...CERAMIC	220PF	10%	50V
C752	1-124-045-00	ELECT	4.7MF	20%	50V
C753	1-162-215-31	CERAMIC	47PF	5%	50V
C754	1-124-045-00	ELECT	4.7MF	20%	50V
C801	1-124-910-11	ELECT	47MF	20%	25V
C802	1-124-910-11	ELECT	47MF	20%	25V
C850A	1-161-744-00	CERAMIC	0.01MF		400V
C850	1-164-096-11	CERAMIC	0.01MF		50V
C851	1-164-096-11	CERAMIC	0.01MF		50V
C852	1-106-367-00	MYLAR	0.01MF	10%	100V
C853	1-126-376-11	ELECT	470MF	20%	25V
C854	1-126-376-11	ELECT	470MF	20%	25V
C855	1-124-910-11	ELECT	47MF	20%	25V
C856	1-124-910-11	ELECT	47MF	20%	25V
C857	1-124-911-11	ELECT	220MF	20%	50V
C858	1-124-910-11	ELECT	47MF	20%	50V
C859	1-124-910-11	ELECT	47MF	20%	35V
C901	1-124-910-11	ELECT	47MF	20%	25V
C902	1-124-910-11	ELECT	47MF	20%	25V
C903	1-124-997-11	ELECT	470MF	20%	10V
C904	1-126-301-11	ELECT	1MF	20%	50V
C905	1-136-165-00	FILM	0.1MF	5%	50V
C906	1-126-059-11	ELECT	10MF	20%	50V
C907	1-125-486-11	CAP,DOUBLE LAYERS	0.22F		5.5V
C908	1-161-494-00	CERAMIC	0.022MF		25V
C912	1-124-910-11	ELECT	47MF	20%	25V
C913	1-136-165-00	FILM	0.1MF	5%	50V
C914	1-161-494-00	CERAMIC	0.022MF		25V
C915	1-124-994-11	ELECT	100MF	20%	10V
C920	1-124-997-11	ELECT	470MF	20%	10V
C921A	1-124-045-00	ELECT	4.7MF	20%	50V
C921B	1-161-494-00	CERAMIC	0.022MF		25V
C922	1-136-165-00	FILM	0.1MF	5%	50V
C923	1-126-059-11	ELECT	10MF	20%	50V
C924	1-124-910-11	ELECT	47MF	20%	25V
C925	1-124-910-11	ELECT	47MF	20%	25V
C926	1-124-910-11	ELECT	47MF	20%	25V
C927	1-124-910-11	ELECT	47MF	20%	25V
C928	1-124-910-11	ELECT	47MF	20%	25V
C929	1-124-997-11	ELECT	470MF	20%	10V
CNJ001	*1-569-083-11	SOCKET, CONNECTOR 12P			
CNJ002	*1-569-083-11	SOCKET, CONNECTOR 12P			
CNJ701	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)			

Ref.No.	Part No.	Description
CNP001	*1-569-082-11	PIN, CONNECTOR 12P
CNP002	*1-569-082-11	PIN, CONNECTOR 12P
CNP701	*1-565-561-11	PIN, CONNECTOR 3P (AU BUS)
CNP850	*1-564-337-61	PIN, CONNECTOR 3P
CNP851	*1-564-336-00	PIN, CONNECTOR 2P
CNP852	*1-564-337-00	PIN, CONNECTOR 3P
⚠CNP853.	*1-564-321-00	PIN, CONNECTOR 2P
CNP860	*1-564-337-61	PIN, CONNECTOR 3P
CNP861	*1-564-336-00	PIN, CONNECTOR 2P
CNP862	*1-564-337-00	PIN, CONNECTOR 3P
CP901⚠.	1-526-794-11	(AEP,WG,Saudi Arabia)...OUTLET, AC
CP901⚠.	1-526-751-11	(UK)....................OUTLET, AC
CP901⚠.	1-540-038-11	(E)......OUTLET, AC (NONPOLAR)(1P)
D001	8-719-301-38	DIODE SEL2210S-C (SELECT 10 1-10)
D002	8-719-301-38	DIODE SEL2210S-C (PERSONAL FILE 1-5)
D003	8-719-301-38	DIODE SEL2210S-C (1 HALL)
D004	8-719-301-38	DIODE SEL2210S-C (2 ORCHESTRA)
D005	8-719-301-38	DIODE SEL2210S-C (3 THEATER)
D006	8-719-301-38	DIODE SEL2210S-C (4 SIMULATED)
D007	8-719-301-38	DIODE SEL2210S-C (5 JAZZ CLUB)
D008	8-719-301-38	DIODE SEL2210S-C (6 GYM)
D009	8-719-301-38	DIODE SEL2210S-C (7 DISCO)
D010	8-719-301-38	DIODE SEL2210S-C (8 BGM)
D011	8-719-301-38	DIODE SEL2210S-C (9 WM)
D012	8-719-301-38	DIODE SEL2210S-C (10 CAR)
D013	8-719-301-38	DIODE SEL2210S-C (MEMORY)
D014	8-719-301-38	DIODE SEL2210S-C (DSC)
D015	8-719-301-38	DIODE SEL2210S-C (EFFECT)
D016	8-719-912-20	DIODE 1SS120
D017	8-719-912-20	DIODE 1SS120
D018	8-719-912-20	DIODE 1SS120
D019	8-719-912-20	DIODE 1SS120
D020	8-719-912-20	DIODE 1SS120
D021	8-719-912-20	DIODE 1SS120
D022	8-719-912-20	DIODE 1SS120
D023	8-719-912-20	DIODE 1SS120
D024	8-719-912-20	DIODE 1SS120
D025	8-719-000-84	DIODE UZL-7M1
D026	8-719-912-20	DIODE 1SS120
D027	8-719-912-20	DIODE 1SS120
D028	8-719-912-20	DIODE 1SS120
D101	8-719-912-20	DIODE 1SS120
D102	8-719-912-20	DIODE 1SS120
D201	8-719-912-20	DIODE 1SS120
D202	8-719-912-20	DIODE 1SS120
D301	8-719-912-20	DIODE 1SS120
D401	8-719-912-20	DIODE 1SS120
D850	8-719-200-82	DIODE 11ES2
D851	8-719-200-82	DIODE 11ES2
D852	8-719-200-82	DIODE 11ES2
D853	8-719-200-82	DIODE 11ES2
D854	8-719-200-82	DIODE 11ES2
D855	8-719-934-22	DIODE HZS30-2L
D856	8-719-014-88	DIODE UZP-6.8BC
D902	8-719-912-20	DIODE 1SS120
D905	8-719-912-20	DIODE 1SS120
D906	8-719-933-33	DIODE HZS6A1L
D907	8-719-933-36	DIODE HZS6B1L

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
D908	8-719-933-36	DIODE HZS6B1L
D909	8-719-200-82	DIODE 11ES2
D910	8-719-200-82	DIODE 11ES2
F850 ⚠.	1-532-078-00	(AEP,WG,UK)...FUSE (T 1A)
FL001	1-519-559-11	INDICATOR TUBE, FLUORESCENT
IC001	8-759-149-01	IC UPD75108CW-B10
IC002	8-759-601-02	IC M5218P
IC101	8-759-822-27	IC LC7565K
IC102	8-759-991-11	IC XR1091
IC103	8-759-633-78	IC M5289P
IC201	8-759-822-27	IC LC7565K
IC202	8-759-991-11	IC XR1091
IC203	8-759-633-78	IC M5289P
IC502	8-759-633-83	IC M50198P
IC503	8-759-822-25	IC LC7520K
IC504	8-759-800-37	IC LC4066BH
IC505	8-759-601-02	IC M5218PK
IC506	8-759-601-02	IC M5218PK
IC507	8-759-601-02	IC M5218PK
IC508	8-759-800-37	IC LC4066BHK
IC701	8-759-601-02	IC M5218PK
IC850	8-759-982-10	IC RC7809FA
IC851	8-759-604-49	IC M5F7909
IC901	8-759-820-13	IC L78MR06
IC902	8-759-604-29	IC M5F7805
ICB001	1-233-198-11	COMPOSITION CIRCUIT BLOCK (100KX12)
ICB002	1-233-198-11	COMPOSITION CIRCUIT BLOCK (100KX12)
ICB003	1-233-198-11	COMPOSITION CIRCUIT BLOCK (100KX12)
ICB004	1-233-198-11	COMPOSITION CIRCUIT BLOCK (100KX12)
ICB101	1-233-200-11	COMPOSITION CIRCUIT BLOCK (1MX7)
ICB102	1-233-200-11	COMPOSITION CIRCUIT BLOCK (1MX7)
ICB201	1-233-200-11	COMPOSITION CIRCUIT BLOCK (1MX7)
ICB202	1-233-200-11	COMPOSITION CIRCUIT BLOCK (1MX7)
L501	1-410-521-11	INDUCTOR 100UH
Q001	8-729-620-05	TRANSISTOR 2SC2603-EF
Q002	8-729-900-80	TRANSISTOR DTC114ES
Q003	8-729-900-61	TRANSISTOR DTA114ES
Q004	8-729-900-61	TRANSISTOR DTA114ES
Q005	8-729-620-05	TRANSISTOR 2SC2603-EF
Q006	8-729-620-05	TRANSISTOR 2SC2603-EF
Q007	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q008	8-729-900-80	TRANSISTOR DTC114ES
Q009	8-729-900-80	TRANSISTOR DTC114ES
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF
Q301	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q305	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q306	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q401	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q405	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q406	8-729-141-30	TRANSISTOR 2SC3623A-LK
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q502	8-729-900-80	TRANSISTOR DTC114ES
Q503	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q504	8-729-900-80	TRANSISTOR DTC114ES

Ref.No.	Part No.	Description			
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q507	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q508	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q509	8-729-900-80	TRANSISTOR DTC114ES			
Q510	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q511	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q512	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q850	8-729-920-97	TRANSISTOR 2SB1187-EF			
R001	1-249-414-11	CARBON	560	5%	1/4W
R002	1-249-414-11	CARBON	560	5%	1/4W
R003	1-249-414-11	CARBON	560	5%	1/4W
R004	1-249-414-11	CARBON	560	5%	1/4W
R005	1-249-414-11	CARBON	560	5%	1/4W
R006	1-249-414-11	CARBON	560	5%	1/4W
R007	1-249-414-11	CARBON	560	5%	1/4W
R008	1-249-414-11	CARBON	560	5%	1/4W
R009	1-249-414-11	CARBON	560	5%	1/4W
R010	1-249-414-11	CARBON	560	5%	1/4W
R011	1-249-414-11	CARBON	560	5%	1/4W
R012	1-249-414-11	CARBON	560	5%	1/4W
R013	1-249-414-11	CARBON	560	5%	1/4W
R014	1-249-414-11	CARBON	560	5%	1/4W
R015	1-249-414-11	CARBON	560	5%	1/4W
R016	1-249-437-11	CARBON	47K	5%	1/4W
R017	1-249-437-11	CARBON	47K	5%	1/4W
R018	1-249-437-11	CARBON	47K	5%	1/4W
R019	1-249-437-11	CARBON	47K	5%	1/4W
R020	1-249-417-11	CARBON	1K	5%	1/4W
R021	1-249-417-11	CARBON	1K	5%	1/4W
R022	1-249-417-11	CARBON	1K	5%	1/4W
R023	1-249-417-11	CARBON	1K	5%	1/4W
R024	1-249-429-11	CARBON	10K	5%	1/4W
R025	1-247-887-00	CARBON	220K	5%	1/4W
R026	1-249-433-11	CARBON	22K	5%	1/4W
R027	1-249-433-11	CARBON	22K	5%	1/4W
R049	1-249-441-11	CARBON	100K	5%	1/4W
R050	1-249-441-11	CARBON	100K	5%	1/4W
R051	1-249-441-11	CARBON	100K	5%	1/4W
R101	1-249-433-11	CARBON	22K	5%	1/4W
R102	1-249-413-11	CARBON	470	5%	1/4W
R103	1-247-885-00	CARBON	180K	5%	1/4W
R104	1-249-429-11	CARBON	10K	5%	1/4W
R105	1-249-431-11	CARBON	15K	5%	1/4W
R106	1-249-421-11	CARBON	2.2K	5%	1/4W
R107	1-249-441-11	CARBON	100K	5%	1/4W
R108	1-249-419-11	CARBON	1.5K	5%	1/4W
R109	1-247-881-00	CARBON	120K	5%	1/4W
R110	1-249-432-11	CARBON	18K	5%	1/4W
R111	1-247-881-00	CARBON	120K	5%	1/4W
R112	1-249-426-11	CARBON	5.6K	5%	1/4W
R113	1-249-429-11	CARBON	10K	5%	1/4W
R120	1-249-433-11	CARBON	22K	5%	1/4W
R121	1-249-433-11	CARBON	22K	5%	1/4W
R123	1-249-433-11	CARBON	22K	5%	1/4W
R124	1-249-433-11	CARBON	22K	5%	1/4W
R125	1-249-429-11	CARBON	10K	5%	1/4W

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			
R126	1-249-429-11	CARBON	10K	5%	1/4W
R127	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-249-433-11	CARBON	22K	5%	1/4W
R202	1-249-413-11	CARBON	470	5%	1/4W
R203	1-247-885-00	CARBON	180K	5%	1/4W
R204	1-249-429-11	CARBON	10K	5%	1/4W
R205	1-249-431-11	CARBON	15K	5%	1/4W
R206	1-249-421-11	CARBON	2.2K	5%	1/4W
R207	1-249-441-11	CARBON	100K	5%	1/4W
R208	1-249-419-11	CARBON	1.5K	5%	1/4W
R209	1-247-881-00	CARBON	120K	5%	1/4W
R210	1-249-432-11	CARBON	18K	5%	1/4W
R211	1-247-881-00	CARBON	120K	5%	1/4W
R212	1-249-426-11	CARBON	5.6K	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-432-11	CARBON	18K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-431-11	CARBON	15K	5%	1/4W
R314	1-249-424-11	CARBON	3.9K	5%	1/4W
R316	1-249-428-11	CARBON	8.2K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-416-11	CARBON	820	5%	1/4W
R319	1-249-417-11	CARBON	1K	5%	1/4W
R320	1-249-435-11	CARBON	33K	5%	1/4W
R321	1-249-429-11	CARBON	10K	5%	1/4W
R324	1-249-429-11	CARBON	10K	5%	1/4W
R325	1-249-429-11	CARBON	10K	5%	1/4W
R326	1-249-437-11	CARBON	47K	5%	1/4W
R327	1-249-425-11	CARBON	4.7K	5%	1/4W
R328	1-249-429-11	CARBON	10K	5%	1/4W
R329	1-249-429-11	CARBON	10K	5%	1/4W
R330	1-249-429-11	CARBON	10K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R332	1-249-433-11	CARBON	22K	5%	1/4W
R333	1-249-441-11	CARBON	100K	5%	1/4W
R334	1-249-429-11	CARBON	10K	5%	1/4W
R342	1-249-422-11	CARBON	2.7K	5%	1/4W
R343	1-249-416-11	CARBON	820	5%	1/4W
R346	1-249-429-11	CARBON	10K	5%	1/4W
R347	1-249-417-11	CARBON	1K	5%	1/4W
R348	1-249-437-11	CARBON	47K	5%	1/4W
R349	1-249-429-11	CARBON	10K	5%	1/4W
R350	1-247-881-00	CARBON	120K	5%	1/4W
R351	1-249-429-11	CARBON	10K	5%	1/4W
R352	1-249-429-11	CARBON	10K	5%	1/4W
R353	1-249-429-11	CARBON	10K	5%	1/4W
R354	1-249-429-11	CARBON	10K	5%	1/4W
R411	1-249-432-11	CARBON	18K	5%	1/4W
R413	1-249-431-11	CARBON	15K	5%	1/4W
R414	1-249-424-11	CARBON	3.9K	5%	1/4W
R416	1-249-428-11	CARBON	8.2K	5%	1/4W
R417	1-249-429-11	CARBON	10K	5%	1/4W
R418	1-249-416-11	CARBON	820	5%	1/4W
R419	1-249-417-11	CARBON	1K	5%	1/4W
R420	1-249-435-11	CARBON	33K	5%	1/4W
R427	1-249-425-11	CARBON	4.7K	5%	1/4W
R429	1-249-429-11	CARBON	10K	5%	1/4W

Ref.No.	Part No.	Description				
R430	1-249-429-11	CARBON	10K	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R432	1-249-433-11	CARBON	22K	5%	1/4W	
R433	1-249-441-11	CARBON	100K	5%	1/4W	
R434	1-249-429-11	CARBON	10K	5%	1/4W	
R449	1-249-429-11	CARBON	10K	5%	1/4W	
R450	1-247-881-00	CARBON	120K	5%	1/4W	
R453	1-249-429-11	CARBON	10K	5%	1/4W	
R454	1-249-429-11	CARBON	10K	5%	1/4W	
R501	1-249-435-11	CARBON	33K	5%	1/4W	
R502	1-249-435-11	CARBON	33K	5%	1/4W	
R503	1-249-425-11	CARBON	4.7K	5%	1/4W	
R504	1-249-435-11	CARBON	33K	5%	1/4W	
R505	1-249-435-11	CARBON	33K	5%	1/4W	
R506	1-249-425-11	CARBON	4.7K	5%	1/4W	
R507	1-249-435-11	CARBON	33K	5%	1/4W	
R508	1-249-435-11	CARBON	33K	5%	1/4W	
R509	1-249-425-11	CARBON	4.7K	5%	1/4W	
R510	1-249-435-11	CARBON	33K	5%	1/4W	
R511	1-249-435-11	CARBON	33K	5%	1/4W	
R512	1-249-425-11	CARBON	4.7K	5%	1/4W	
R513	1-247-903-00	CARBON	1M	5%	1/4W	
R515	1-249-425-11	CARBON	4.7K	5%	1/4W	
R516	1-249-425-11	CARBON	4.7K	5%	1/4W	
R517	1-249-425-11	CARBON	4.7K	5%	1/4W	
R518	1-249-435-11	CARBON	33K	5%	1/4W	
R519	1-249-435-11	CARBON	33K	5%	1/4W	
R525	1-249-437-11	CARBON	47K	5%	1/4W	
R526	1-249-437-11	CARBON	47K	5%	1/4W	
R527	1-249-433-11	CARBON	22K	5%	1/4W	
R601	1-249-426-11	CARBON	5.6K	5%	1/4W	
R602	1-249-426-11	CARBON	5.6K	5%	1/4W	
R603	1-249-431-11	CARBON	15K	5%	1/4W	
R604	1-249-429-11	CARBON	10K	5%	1/4W	
R605	1-249-431-11	CARBON	15K	5%	1/4W	
R606	1-249-441-11	CARBON	100K	5%	1/4W	
R607	1-249-431-11	CARBON	15K	5%	1/4W	
R608	1-249-429-11	CARBON	10K	5%	1/4W	
R609	1-249-431-11	CARBON	15K	5%	1/4W	
R611	1-249-422-11	CARBON	2.7K	5%	1/4W	
R701	1-249-413-11	CARBON	470	5%	1/4W	
R702	1-249-437-11	CARBON	47K	5%	1/4W	
R703	1-249-437-11	CARBON	47K	5%	1/4W	
R751	1-249-413-11	CARBON	470	5%	1/4W	
R752	1-249-437-11	CARBON	47K	5%	1/4W	
R753	1-249-437-11	CARBON	47K	5%	1/4W	
R853	1-249-429-11	CARBON	10K	5%	1/4W	
R854	1-249-419-11	CARBON	1.5K	5%	1/4W	
R901	1-249-417-11	CARBON	1K	5%	1/4W	
R910 ⚠.	1-212-879-11	FUSIBLE	82	5%	1/4W	F
R911 ⚠.	1-212-879-11	FUSIBLE	82	5%	1/4W	F
R912	1-249-425-11	CARBON	4.7K	5%	1/4W	
R913	1-249-419-11	CARBON	1.5K	5%	1/4W	
R914 ⚠.	1-212-859-00	FUSIBLE	12	5%	1/4W	F
R915 ⚠.	1-212-859-00	FUSIBLE	12	5%	1/4W	F
R916	1-249-393-11	CARBON	10	5%	1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description
S001	1-554-303-21	SWITCH, KEY BOARD (EFFECT)
S002	1-554-303-21	SWITCH, KEY BOARD (DISPLAY)
S003	1-554-303-21	SWITCH, KEY BOARD (SURROUND)
S004	1-554-303-21	SWITCH, KEY BOARD (DELAY)
S005	1-554-303-21	SWITCH, KEY BOARD (SELECT 10 1-10)
S006	1-554-303-21	SWITCH, KEY BOARD (PERSONAL FILE 1-5)
S007	1-554-303-21	SWITCH, KEY BOARD (1 HALL)
S008	1-554-303-21	SWITCH, KEY BOARD (2 ORCHESTRA)
S009	1-554-303-21	SWITCH, KEY BOARD (3 THEATER)
S010	1-554-303-21	SWITCH, KEY BOARD (4 SIMULATED)
S011	1-554-303-21	SWITCH, KEY BOARD (5 JAZZ CLUB)
S012	1-554-303-21	SWITCH, KEY BOARD (6 GYM)
S013	1-554-303-21	SWITCH, KEY BOARD (7 DISCO)
S014	1-554-303-21	SWITCH, KEY BOARD (8 BGM)
S015	1-554-303-21	SWITCH, KEY BOARD (9 WM)
S016	1-554-303-21	SWITCH, KEY BOARD (10 CAR)
S017	1-554-303-21	SWITCH, KEY BOARD (FLAT)
S018	1-554-303-21	SWITCH, KEY BOARD (REVERSE)
S019	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S021	1-554-303-21	SWITCH, KEY BOARD (△)
S022	1-554-303-21	SWITCH, KEY BOARD (▽)
S023	1-554-303-21	SWITCH, KEY BOARD (▷)
S024	1-554-303-21	SWITCH, KEY BOARD (◁)
S025	1-554-303-21	SWITCH, KEY BOARD (L)
S026	1-554-303-21	SWITCH, KEY BOARD (L+R)
S027	1-554-303-21	SWITCH, KEY BOARD (R)
S028	1-554-303-21	SWITCH, KEY BOARD (DSC)
S850 ⚠	1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)
T850 ⚠	1-450-117-11	(UK)...............TRANSFORMER, POWER
T850 ⚠	1-450-118-11	(E,Saudi Arabia)...TRANSFORMER, POWER
T850 ⚠	1-450-119-11	(AEP,WG)...........TRANSFORMER, POWER
VS850 ⚠	1-572-367-11	(E,Saudi Arabia) ...SWITCH, VOLTAGE SELECTOR
X001	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)
X502	1-567-818-21	VIBRATOR, CERAMIC (3.58MHz)

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-559-533-11	(AEP,WG)...CORD, CONNECTION
1-574-265-11	(AEP,WG)...CORD (WITH CONNECTOR)
3-751-570-11	(AEP)......MANUAL, INSTRUCTION
3-751-570-41	(AEP,WG)...MANUAL, INSTRUCTION
4-920-940-01	(UK,E,Saudi Arabia)...SHEET (A), PROTECTION
*4-929-563-01	(UK,E,Saudi Arabia)...CUSHION
*4-937-352-01	(AEP,WG)..............CUSHION
*4-937-351-01	(AEP,WG)...INDIVIDUAL CARTON

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

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Audio Group

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PS-V725

SERVICE MANUAL

AEP Model
UK Model

This model is almost the same as model PS-V901, previously produced. Therefore, see the service manual for the information not contained in this manual.

PARTS LIST (The difference between PS-V901 and PS-V725)

PS-V901			PS-V725	
Page	No.	Part No.	Part No.	Description
5	10	4-928-226-01	4-913-521-11	SHEET (T, T)
	11	4-880-655-01	4-928-266-01	BELT
6	905	⚠1-556-562-00	⚠1-556-035-00	(UK)....CORD, POWER
7		3-750-420-11 3-750-420-41	3-786-571-11	(AEP)....MANUAL, INSTRUCTION
		*4-928-257-01	*4-928-277-01	(AEP, UK)....INDIVIDUAL CARTON

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

STEREO TURNTABLE SYSTEM

SONY®

MICROFILM

9-955-821-11

Sony Corporation
Audio Group

English
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PS-V901

SERVICE MANUAL

AEP Model
UK Model
E Model

SPECIFICATIONS

Turntable

Platter	30 cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33$^{1}/_{3}$ rpm/45 rpm switchable
Wow and flutter	0.08% (WRMS)
Signal-to-noise ratio	65 dB (DIN-B)
Automatic system	Return, reject, lead in.

Tonearm

Type	Statically
Pivot-to stylus length	200 mm (7$^{7}/_{8}$ in.)
Overall arm length	236 mm (9$^{3}/_{4}$ in.)

Cartridge

Type	Moving magnet type
Frequency response	20 Hz – 20kHz
Stylus	ND-155G

General

Dimensions	355 × 95 × 335 mm (w/h/d) (14 × 3$^{3}/_{4}$ × 13$^{1}/_{4}$ inches)
Weight	Approx. 2.3 kg (5 lb 2 oz)
Power requirements	AEP model: 220 V AC, 50/60 Hz UK model: 240 V AC, 50/60 Hz E model: 110—120 V, 220—240 V adjustable, 50/60 Hz
Power consumption	3 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus ND-155G Stat spray XP-C10 Cleaner XP-C1, XP-C2

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

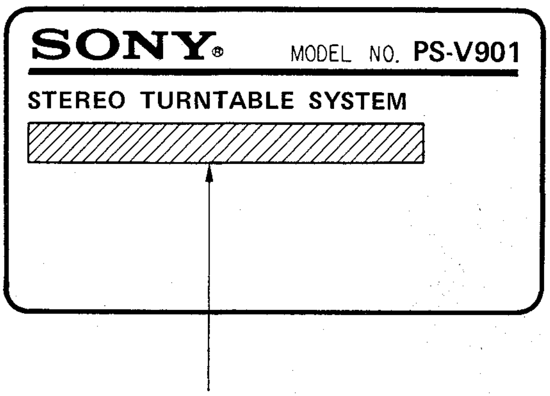
STEREO TURNTABLE SYSTEM

SONY®

SECTION 1
GENERAL

MODEL IDENTIFICATION

— Specification Label —

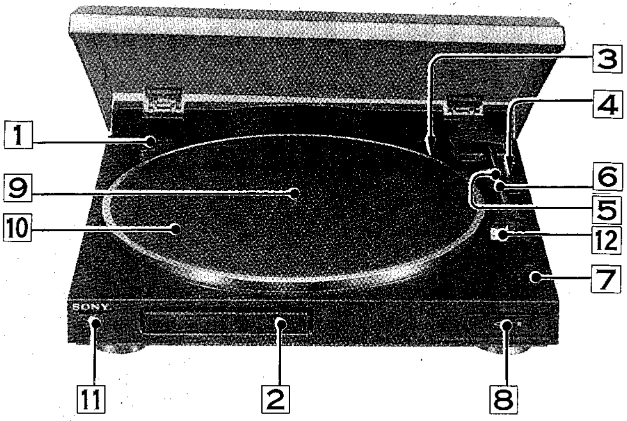


SONY® MODEL NO. PS-V901

STEREO TURNTABLE SYSTEM

AEP model: AC 220 V 50/60 Hz 3 W
UK model: AC 240 V 50/60 Hz 3 W
E model: AC 110—120/220—240 V 50/60 Hz 3 W

LOCATION AND FUNCTION OF CONTROLS

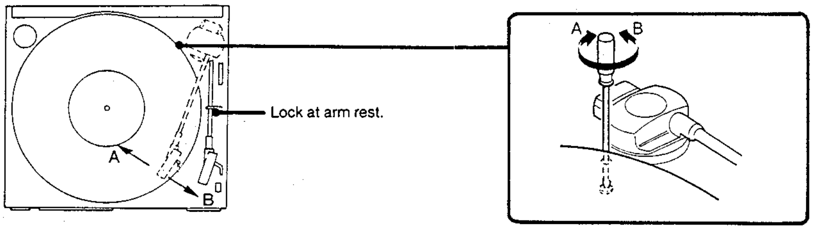


- 1 45-rpm Adaptor
- 2 SPEED selector
- 3 Drop point adjustment hole
- 4 Cueing lever (▼/▼)
- 5 Tonearm
- 6 Armrest
- 7 SIZE SELECTOR
- 8 ◁ (start)/■ (stop) button
- 9 Center spindle
- 10 Rubber mat
- 11 POWER button
- 12 Cartridge

Drop-point Adjustment

The tonearm drop-point during auto play has been factory-adjusted. If necessary, readjust it as follows.

To move the drop-point toward A, turn the adjustment screw clockwise with a screwdriver.
To move the drop-point toward B, turn the adjustment screw counterclockwise with a screwdriver.



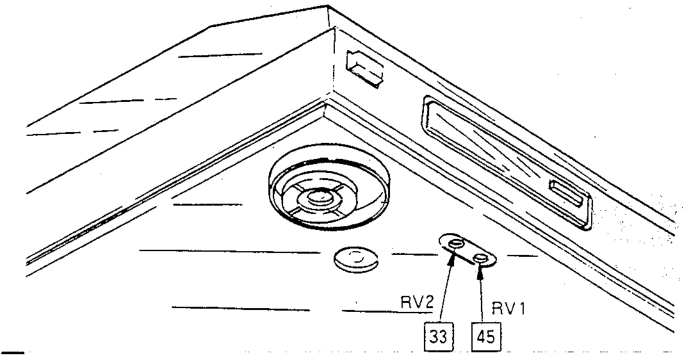
SECTION 2
ADJUSTMENT

Speed Adjustment

Note: Be sure to perform 45-rpm adjustment before 45-rpm.

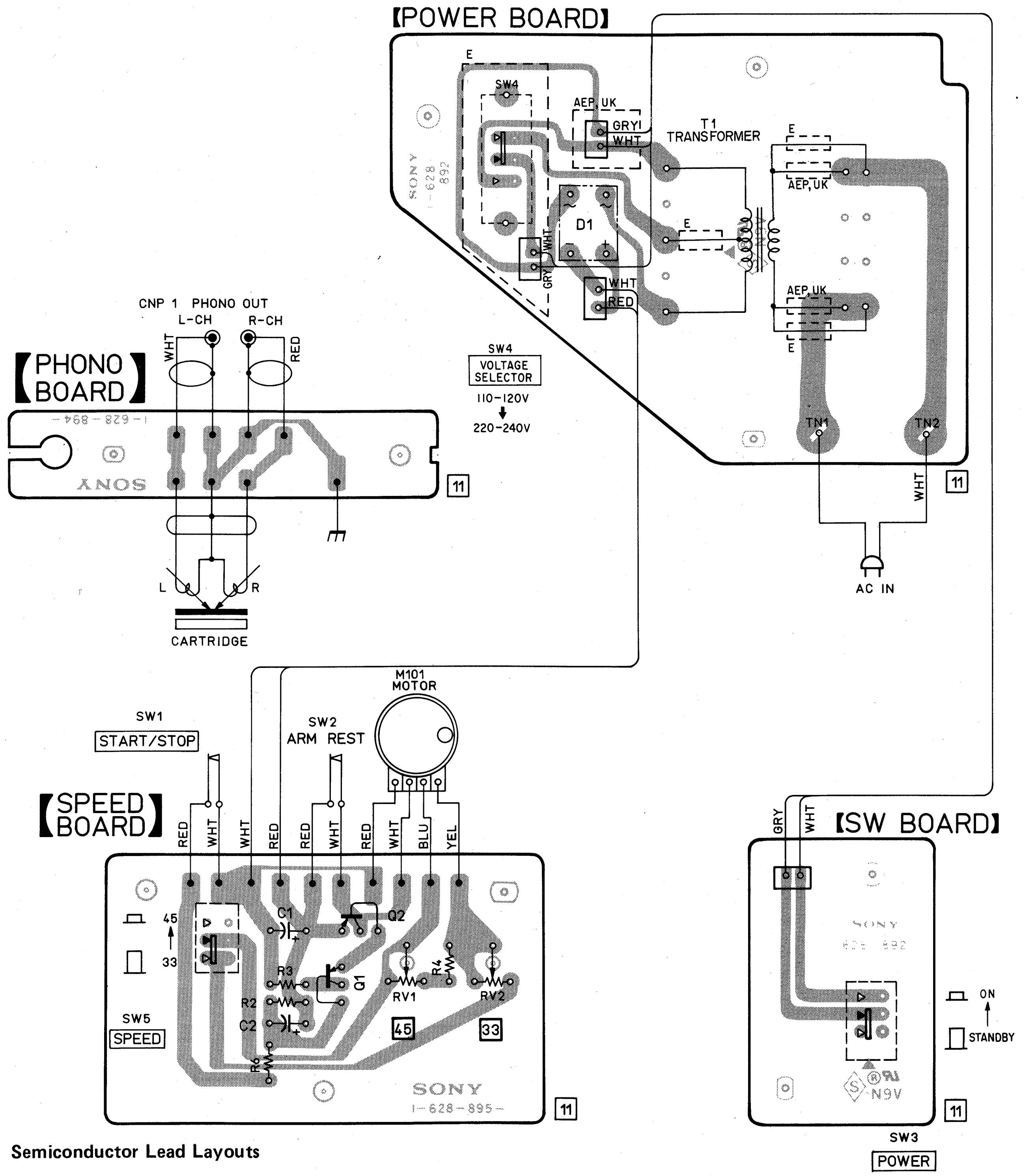
1. Put a stroboscope board on the mat.
2. Set the SPEED switch to 45.
   Depress the lifter knob to make a lift-up mode and move the arm above to the outer most groove of a record.
   Adjust RV1 so that the striped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
   Adjust RV2 in the same way.

Adjustment Location:



SECTION 3
DIAGRAMS

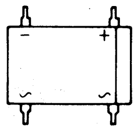
3-1. PRINTED WIRING BOARDS



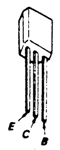
【POWER BOARD】
E
SW4
AEP,UK
GRY
WHT
T1
TRANSFORMER
D1
AEP,UK
TN1
TN2
WHT
11
AC IN
SONY 1-628-892
CNP 1 PHONO OUT
L-CH R-CH
WHT
RED
【PHONO BOARD】
SONY 1-628-894
11
L R
CARTRIDGE
SW4
VOLTAGE SELECTOR
110-120V
220-240V
M101
MOTOR
SW1
START/STOP
SW2
ARM REST
【SPEED BOARD】
RED WHT WHT RED RED WHT RED WHT BLU YEL
45
33
C1
Q2
R3
Q1
R2
C2
R4
RV1
RV2
R6
45
33
SW5
SPEED
SONY 1-628-895
11
GRY WHT
【SW BOARD】
SONY
N9V
ON
STANDBY
11
SW3
POWER

- **Semiconductor Lead Layouts**

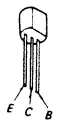
DM02M



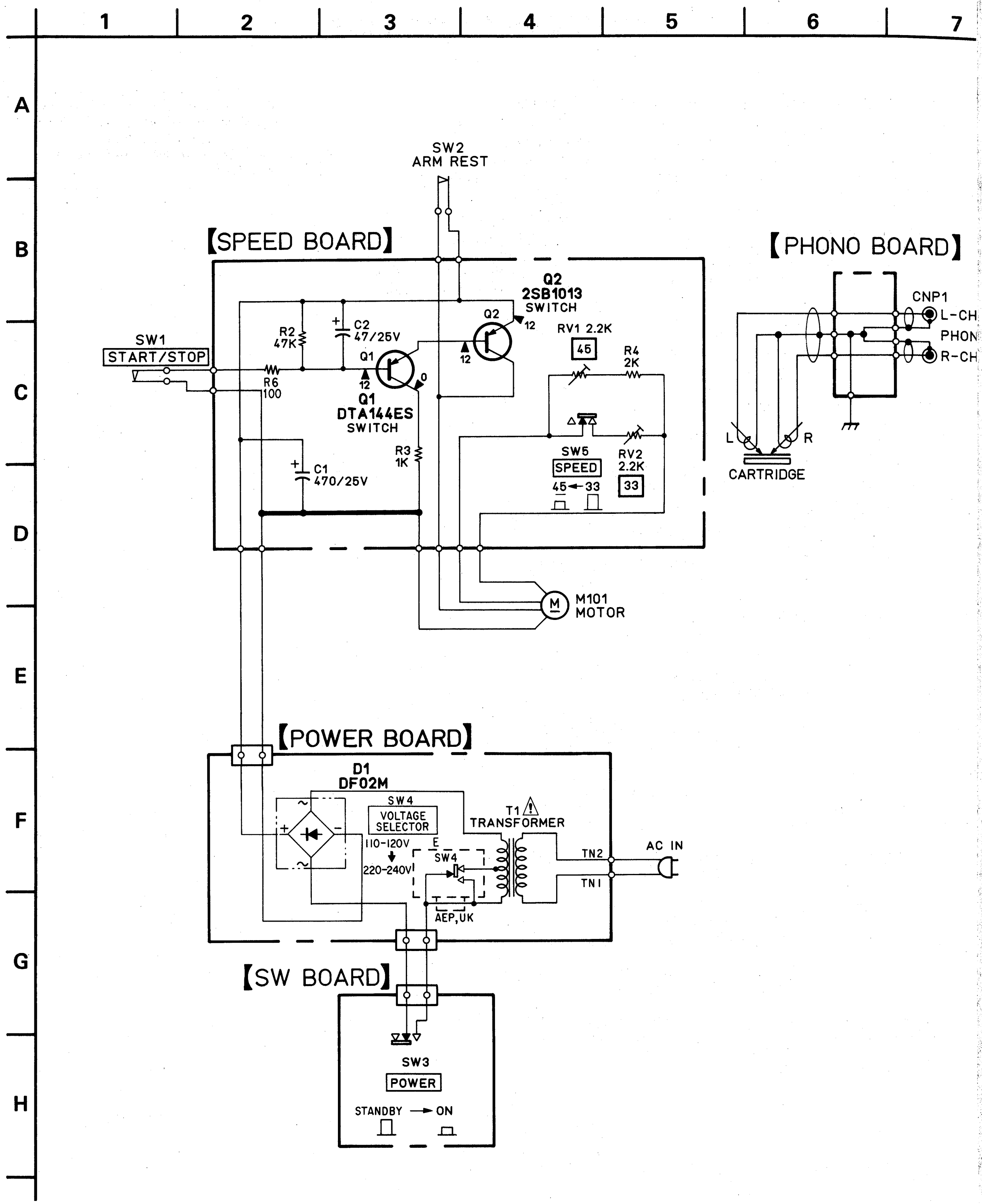
DTA144ES



2SB1013



3-2. SCHEMATIC DIAGRAMS

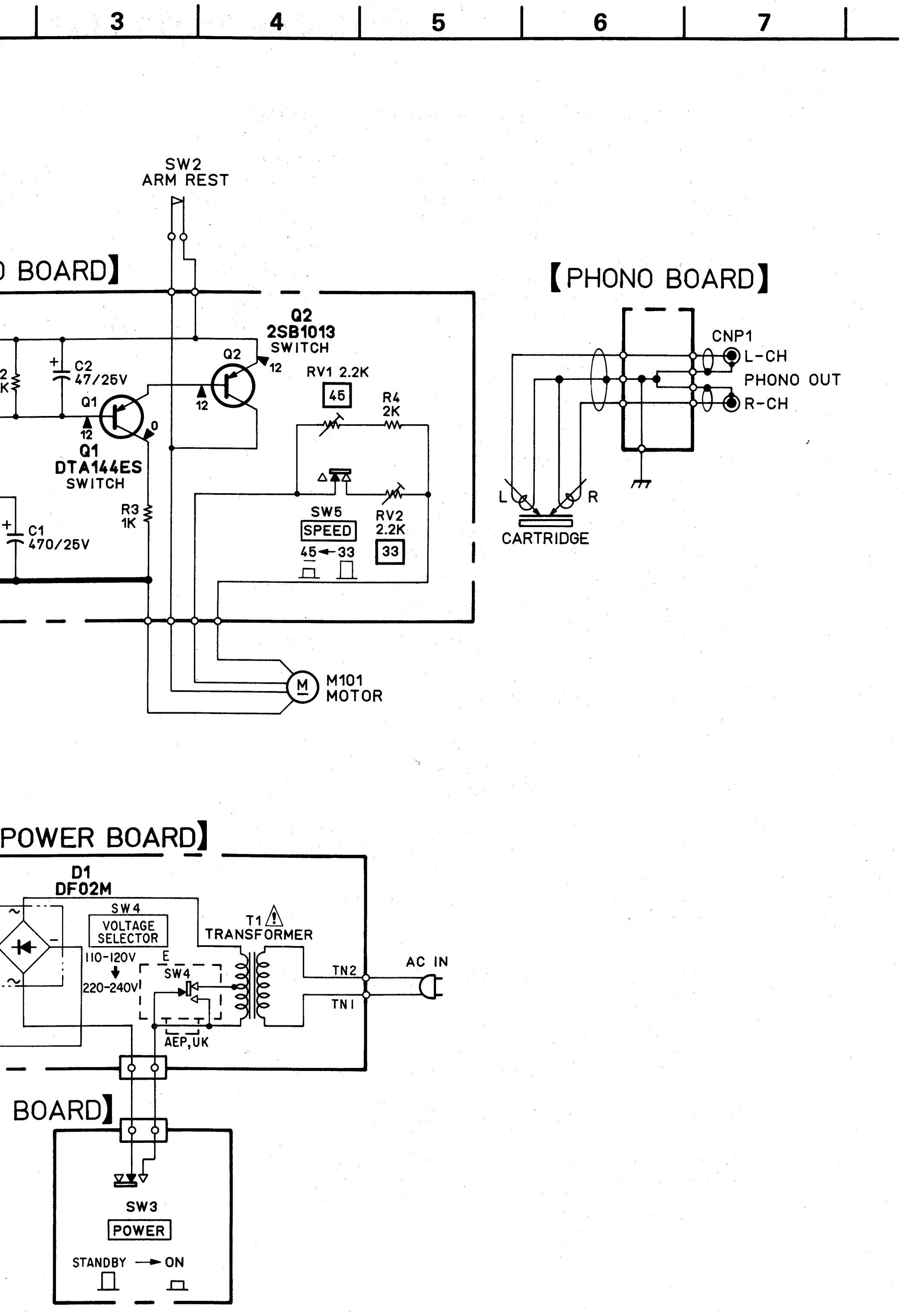


1 2 3 4 5 6 7
A B C D E F G H
SW2
ARM REST
【SPEED BOARD】
Q2
2SB1013
SWITCH
R2 47K
C2 47/25V
Q1
RV1 2.2K
45
R4 2K
SW1
START/STOP
R6 100
Q1
DTA144ES
SWITCH
R3 1K
C1 470/25V
SW5
SPEED
45 → 33
RV2 2.2K
33
【PHONO BOARD】
CNP1
L-CH
PHONO
R-CH
L R
CARTRIDGE
M101
MOTOR
【POWER BOARD】
D1
DF02M
SW4
VOLTAGE SELECTOR
110-120V
220-240V
SW4
AEP,UK
T1
TRANSFORMER
TN2
TN1
AC IN
【SW BOARD】
SW3
POWER
STANDBY → ON

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ☐ : adjustment for repair.


3
4
5
6
7
SW2
ARM REST
BOARD】
Q2
2SB1013
SWITCH
Q2
12
RV1 2.2K
45
R4
2K
C2
47/25V
Q1
12
12
0
Q1
DTA144ES
SWITCH
R3
1K
C1
470/25V
SW5
SPEED
45←33
RV2
2.2K
33
M101
MOTOR
【PHONO BOARD】
CNP1
L-CH
PHONO OUT
R-CH
L
R
CARTRIDGE
POWER BOARD】
D1
DF02M
SW4
VOLTAGE
SELECTOR
110-120V
220-240V
E
SW4
AEP,UK
T1 ⚠
TRANSFORMER
TN2
TN1
AC IN
BOARD】
SW3
POWER
STANDBY → ON

erwise noted. pF: μμF
except for electrolytics

r less unless otherwise

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▭ : adjustment for repair.

SECTION 4
EXPLODED VIEWS

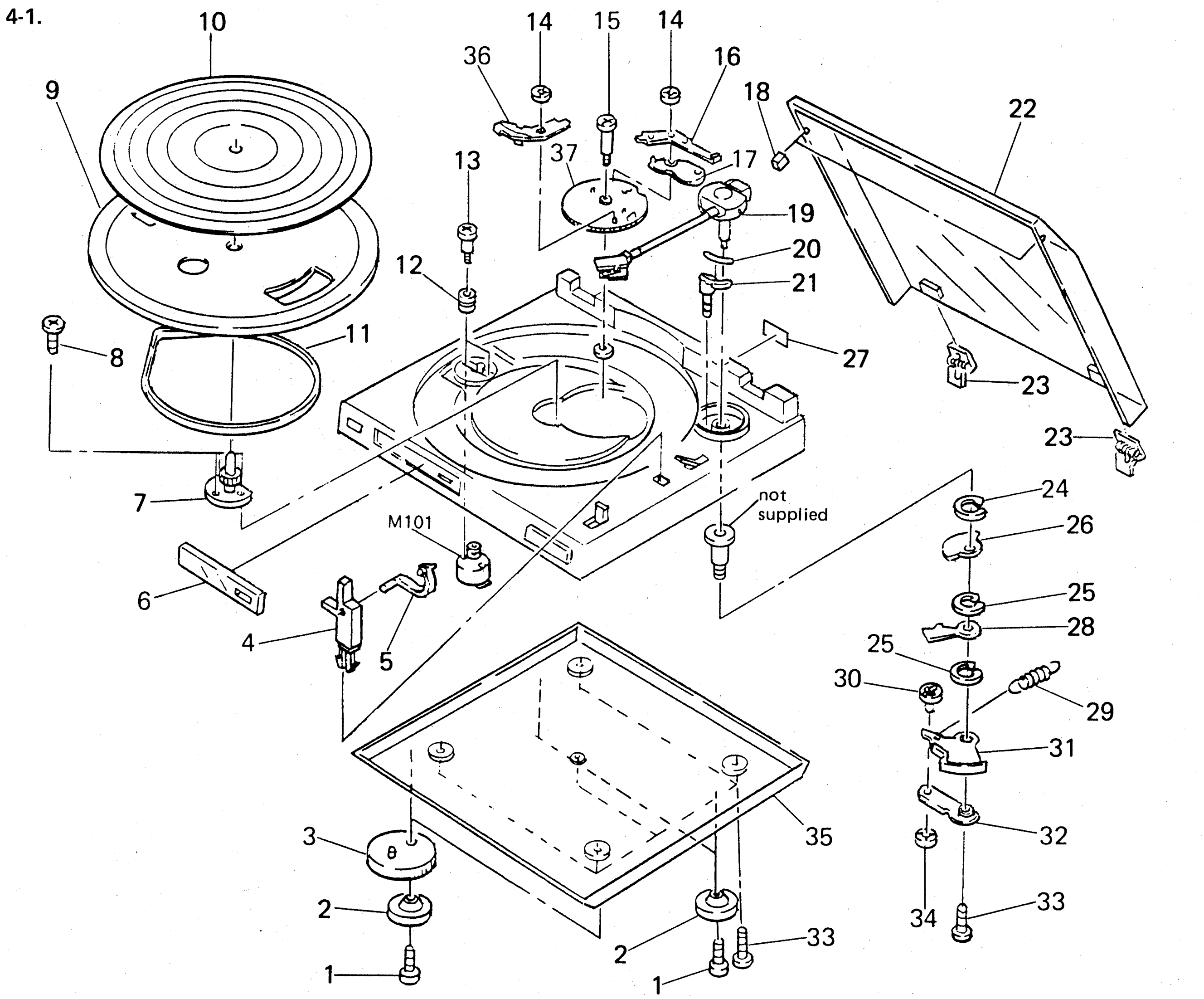
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

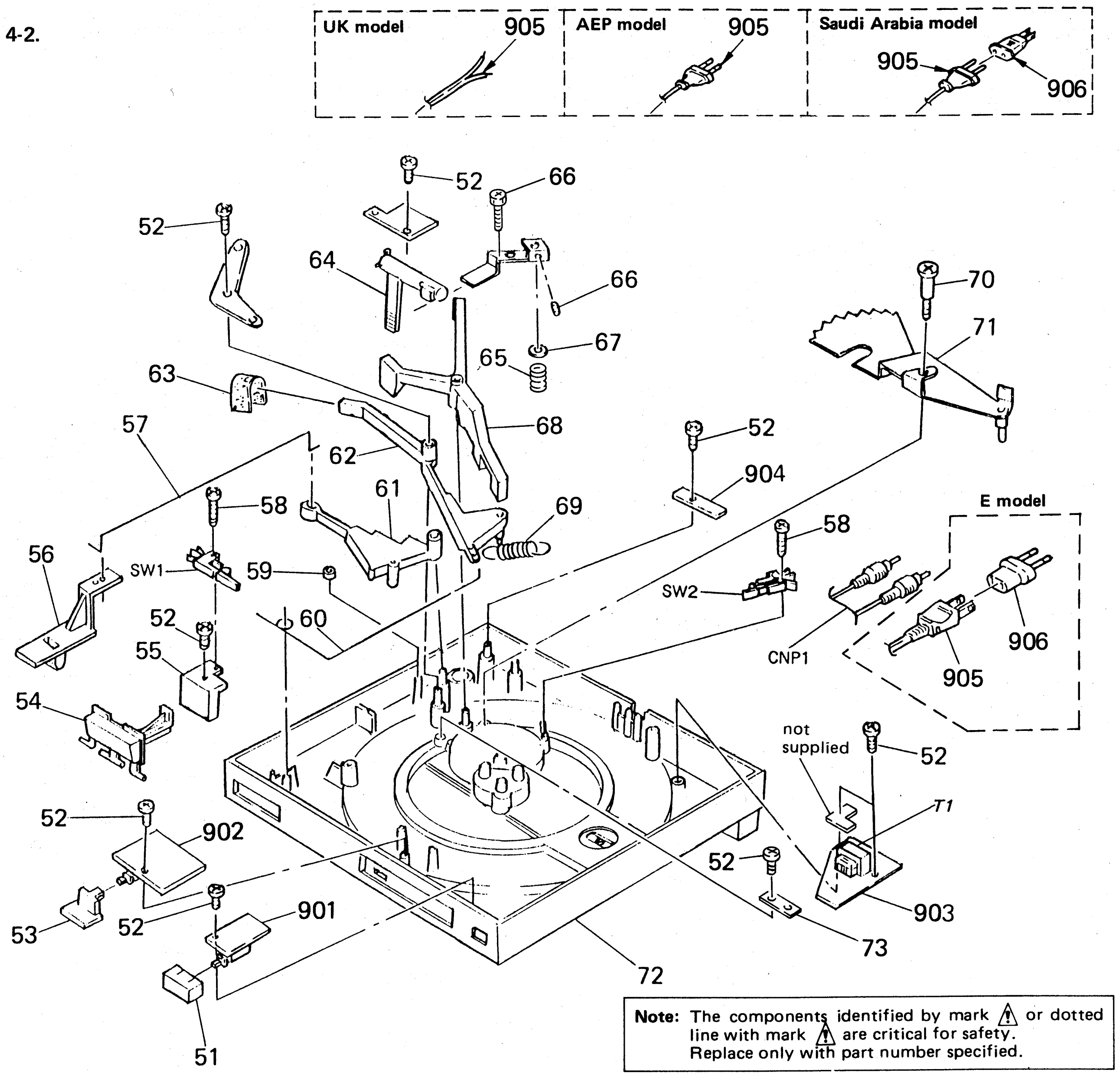
4-1.


10
9
14
15
14
36
16
18
22
13
37
17
19
20
21
12
27
8
11
23
23
7
not supplied
24
26
M101
6
4
5
25
28
25
30
29
31
3
35
32
2
2
33
33
34
1
1

No.	Part No.	Description	Remarks
1	7-685-536-19	SCREW (+PTPW) (2.6X12)	
2	4-913-588-01	INSULATOR	
3	4-928-232-01	COVER (INSULATOR)	
4	4-928-213-01	REST, ARM	
5	4-913-578-01	HOOK, REST	
6	4-928-233-01	WINDOW (SPEED)	
7	A-4633-116-A	BEARING ASSY	
8	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
9	4-928-230-01	TURNTABLE	
10	4-928-226-01	SHEET (T,T)	
11	4-880-655-01	BELT	
12	4-909-061-11	CUSHION, MOTOR	
13	4-909-062-01	SCREW, MOTOR	
14	7-624-190-81	STOP RING 2, TYPE-CS	
15	4-913-595-01	SCREW (STEP 2.6 TP)	
16	4-874-254-00	CLUTCH (S)	
17	4-874-232-00	CLUTCH (R)	
18	4-913-592-01	CUSHION (DUST)	
19	A-4604-166-A	ARM ASSY	
20	*4-928-258-01	SHEET (UP AND DOWN) (B)	
21	*4-913-581-01	HOLDER (UP AND DOWN)	
22	4-928-229-01	COVER, DUST	

No.	Part No.	Description	Remarks
23	4-913-591-01	HINGE	
24	7-624-133-74	STOP RING 12, TYPE-CE	
25	7-624-133-64	STOP RING 11, TYPE-CE	
26	X-4913-528-1	LEVER (INDEX G) ASSY	
27	*4-928-250-01	(AEP)..........LABEL, MODEL NUMBER (AEP1)	
	*4-928-251-01	(UK).............LABEL, MODEL NUMBER (UK)	
	*4-928-252-01	(E,Saudi Arabia)...LABEL, MODEL NUMBER(E)	
28	*X-4913-522-1	LEVER (INDEX F) ASSY	
29	3-548-124-00	SPRING, TENSION	
30	4-928-208-01	CAM (DP)	
31	4-928-220-01	LEVER (ARM DRIVING A)	
32	4-928-221-01	LEVER (ARM DRIVING B)	
33	7-685-647-79	SCREW, TAPPING	
34	7-624-190-61	STOP RING 2.4, TYPE-CS	
35	*4-928-228-01	PLATE, BOTTOM	
36	4-874-279-00	CLUTCH (L)	
37	4-880-524-00	GEAR (S), DRIVE	
M101	A-4604-213-A	(UK)...................MOTOR ASSY	
M101	A-4608-363-A	(AEP,E,Saudi Arabia)...MOTOR ASSY	

4-2.



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks
51	4-922-903-01	BUTTON (PW)	
52	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
53	3-332-457-01	BUTTON (1/3), DUBBING	
54	4-928-217-01	BUTTON (START)	
55	*4-913-583-01	HOLDER (START)	
56	4-913-579-01	KNOB (SIZE)	
57	*4-913-589-01	JOINT (SIZE)	
58	7-621-255-75	SCREW +P 2X12 TYPE2 NON-SLIT	
59	*4-903-453-01	CUSHION (C)	
60	*4-913-593-01	JOINT (START)	
61	*4-928-215-01	LEVER (SIZE)	
62	*4-913-580-01	LEVER (RESET)	
63	*4-913-597-01	SHEET (BRAKE)	
64	4-928-214-01	LEVER (LIFTER)	
65	4-928-240-01	SPRING (LIFTER B), COMPRESSION	
66	7-683-413-05	SCREW (HEXAGON HOLE) (2.6X8)	
67	4-928-244-01	WASHER	
68	*4-928-216-01	LEVER (CLUTCH)	
69	4-928-235-01	SPRING (RESET), TENSION	

No.	Part No.	Description	Remarks
70	4-913-596-01	SCREW (STEP 3 TP)	
71	*X-4913-523-1	LEVER (MAIN) ASSY	
72	4-928-234-11	CABINET (PS-B)	
73	*4-928-245-01	HOLDER (RESET)	
901	*1-628-892-11	PC BOARD, POWER SW	
902	*1-628-895-11	PC BOARD, SPEED CONTROL	
903	*1-628-893-11	PC BOARD, POWER	
904	*1-628-894-11	PC BOARD, PHONO	
905	⚠.1-551-188-XX	(E)..................CORD, POWER	
	⚠.1-555-795-00	(AEP,Saudi Arabia) ...CORD, POWER, EULO PLUG	
	⚠.1-556-562-00	(UK)..................CORD, POWER	
906	⚠.1-506-401-00	(Saudi Arebia)....ADAPTOR, CONVERSION	
	⚠.1-526-565-00	(E)...............AC PLUG ADAPTOR	
CNP1	1-551-294-00	CORD (WITH PLUG)	
SW1	1-570-072-11	SWITCH (START/STOP)	
SW2	1-570-072-11	SWITCH (ARM RESET)	
T1	⚠.1-449-756-11	(AEP,UK)..........TRANSFORMER, POWER	
T1	⚠.1-449-757-11	(E,SaudiArabia)...TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description
901	*1-628-892-11	PC BOARD, POWER SW
902	*1-628-895-11	PC BOARD, SPEED CONTROL
903	*1-628-893-11	PC BOARD, POWER
904	*1-628-894-11	PC BOARD, PHONO
905	⚠.1-551-188-XX	(E)........CORD, POWER
	⚠.1-555-795-00	(AEP,Saudi Arabia) ...CORD, POWER, EULO PLUG
	⚠.1-556-562-00	(UK).......CORD, POWER
906	⚠.1-506-401-00	(Saudi Arebia)....ADAPTOR, CONVERSION
	⚠.1-526-565-00	(E)....AC PLUG ADAPTOR
C1	1-124-480-11	ELECT 470MF 20% 25V
C2	1-124-477-11	ELECT 47MF 20% 25V
CNP1	1-551-294-00	CORD (WITH PLUG)
D1	8-719-937-50	DIODE DF02M
Q1	8-729-900-65	TRANSISTOR DTA144ES
Q2	8-729-116-57	TRANSISTOR 2SB1013
M101	A-4604-213-A	(UK)...................MOTOR ASSY
M101	A-4608-363-A	(AEP,E,Saudi Arabia)...MOTOR ASSY
R2	1-249-437-11	CARBON 47K 5% 1/4W
R3	1-249-417-11	CARBON 1K 5% 1/4W
R4	1-247-838-00	CARBON 2K 5% 1/4W
R6	1-249-405-11	CARBON 100 5% 1/4W
RV1	1-228-991-00	RES, ADJ, CARBON 2.2K
RV2	1-228-991-00	RES, ADJ, CARBON 2.2K
SW1	1-570-072-11	SWITCH (START/STOP)
SW2	1-570-072-11	SWITCH (ARM RESET)
SW3	1-570-879-11	SWITCH, PUSH (1 KEY)(POWER)
SW4	⚠.1-570-974-11	(E)...SWITCH, SLIDE (VOLTAGE SELECTOR)
SW5	1-570-879-11	SWITCH, PUSH (1 KEY)(SPEED)
T1	⚠.1-449-756-11	(AEP,UK)..........TRANSFORMER, POWER
T1	⚠.1-449-757-11	(E,SaudiArabia)...TRANSFORMER, POWER
TN1	*1-535-688-11	TERMINAL
TN2	*1-535-688-11	TERMINAL

ACCESSORY & PACKING MATERIAL

3-701-806-00	ADAPTOR, 45, (E)
3-750-420-11	MANUAL, INSTRUCTION
3-750-420-41	(AEP)...MANUAL, INSTRUCTION
*4-913-575-01	CUSHION (LEFT)
*4-913-576-01	CUSHION (RIGHT)
*4-928-257-01	INDIVIDUAL CARTON

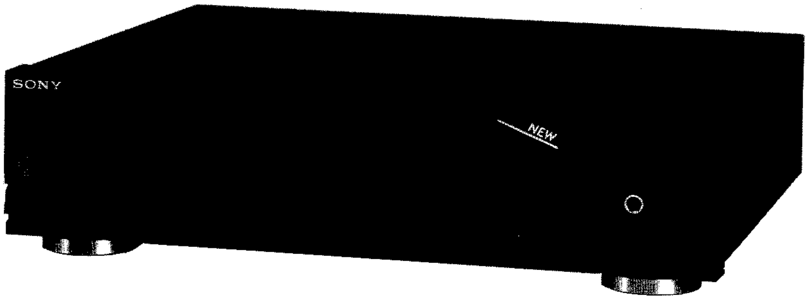
CDP-M48/M49/M69

SERVICE MANUAL

AEP Model
CDP-M48

AEP Model
Australian Model
E Model
CDP-M49

AEP Model
E Model
CDP-M69



Model Name Using Similar Mechanism	CDP-M18
CD Mechanism Name	CDM14-5BD1
Base Unit Name	BU-5BD1

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz – 20 kHz ± 0.5 dB
Signal to noise ratio	More than 100 dB
Dynamic range	More than 92 dB
Harmonic distortion	Less than 0.008%
Channel separation	More than 95 dB

Outputs

LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
HEADPHONES (stereo phone jack) (CDP-M49/M69)	Output level max. 10 mW Load impedance 32 ohms

General

Power requirements	AEP model: 220V AC (or 240V AC adjustable by Sony personnel), 50/60Hz UK model: 240V AC (or 220V AC adjustable by Sony personnel), 50/60Hz Other model: 110V – 120V AC (or 220V – 240V AC adjustable by Sony personnel), 50/60 Hz
Power consumption	11W
Dimensions (approx.,including projections)	355x95x305mm (w/h/d) (14x3¾x12$^1/_8$ inches)
Weight (approx.)	3.0kg (6 lbs 10oz)

Supplied accessories

	CDP-M69	CDP-M48/M49
Audio cord	1 (2 phono plugs – 2 phono plugs)	
Remote commander	1	-
Sony SUM-3 (NS) batteries	2	-

Remote commander

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions	Approx. 40 × 20 × 175 mm (w/h/d) $1^5/_8$ × $^{13}/_{16}$ × 7 inches)
Weight	Approx. 95 g (3.4 oz) Including batteries

Design and specifications subject to change without notice.

COMPACT DISC PLAYER

SONY®

MICROFILM

MC-Service

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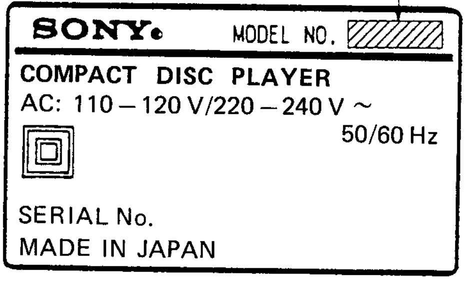
MODEL IDENTIFICATIONS

—Specition Label—

CDP-M49
CDP-M69

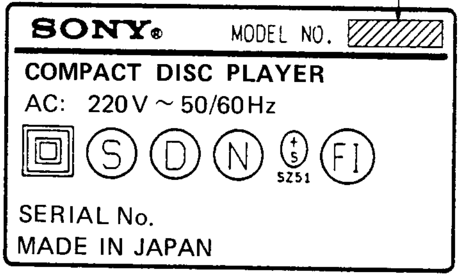
E model:



SONY® MODEL NO. ▨
COMPACT DISC PLAYER
AC: 110 – 120 V/220 – 240 V ~ 50/60 Hz
SERIAL No.
MADE IN JAPAN

CDP-M48
CDP-M49
CDP-M69

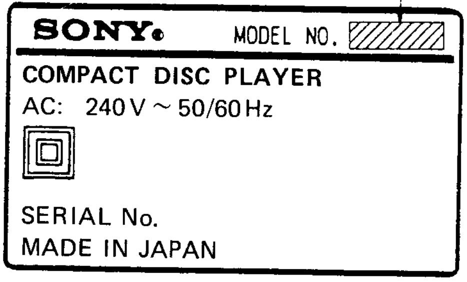
AEP model:



SONY® MODEL NO. ▨
COMPACT DISC PLAYER
AC: 220 V ~ 50/60 Hz
Ⓢ Ⓓ Ⓝ SZ51 (FI)
SERIAL No.
MADE IN JAPAN

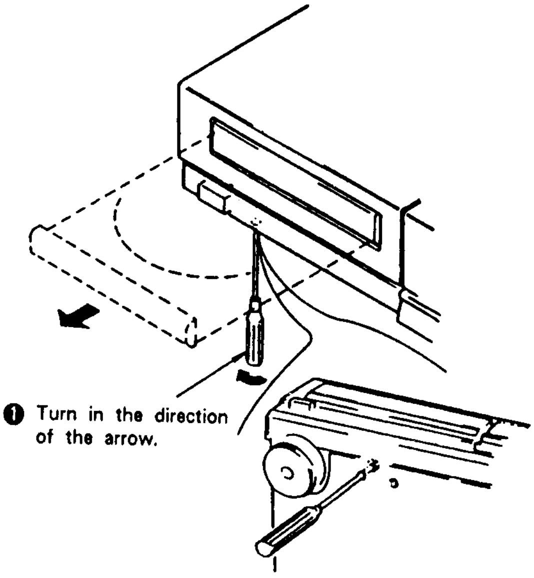
CDP-M49

Australian model:



SONY® MODEL NO. ▨
COMPACT DISC PLAYER
AC: 240 V ~ 50/60 Hz
SERIAL No.
MADE IN JAPAN

HOW TO OPEN THE DISC TRAY WHEN POWER SWTCH TURNS OFF



❶ Turn in the direction of the arrow.

Caution : When you work, keep the set horizontal.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

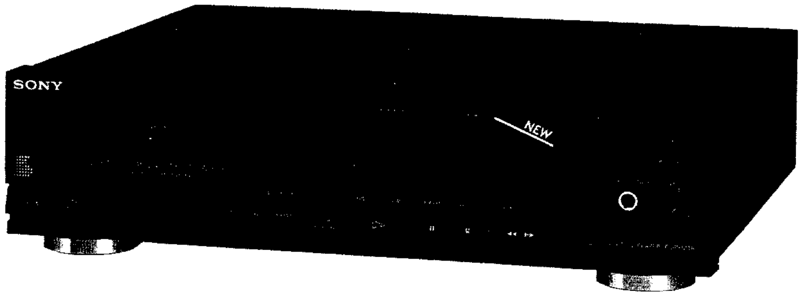
CDP-M48

SERVICE MANUAL

AEP Model
CDP-M48

AEP Model
Australian Model

AEP Model
E Model



SPECIFICATIONS

Compact disc player

Frequency response	2 Hz – 20 kHz ± 0.5 dB
Signal to noise ratio	More than 100 dB
Dynamic range	More than 92 dB
Harmonic distortion	Less than 0.008%
Channel separation	More than 95 dB

Outputs

LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
HEADPHONES (stereo phone jack) (CDP-M49/M69)	Output level max. 10 mW Load impedance 32 ohms

General

Power requirements	AEP model: 220V AC (or 240V AC adjustable by Sony personnel), 50/60Hz UK model: 240V AC (or 220V AC adjustable by Sony personnel), 50/60Hz Other model: 110 V – 120 V AC (or 220 V – 240 V AC adjustable by Sony personnel), 50/60 Hz
Power consumption	11W
Dimensions (approx.,including projections)	355x95x305mm (w/h/d) (14x3¾x12$^1/_8$ inches)
Weight (approx.)	3.0kg (6 lbs 10oz)

Model Name Using Similar Mechanism	CDP-M18
CD Mechanism Name	CDM14-5BD1
Base Unit Name	BU-5BD1

Supplied accessories

	CDP-M69	CDP-M48/M49
Audio cord	1 (2 phono plugs – 2 phono plugs)	
Remote commander	1	–
Sony SUM-3 (NS) batteries	2	–

Remote commander

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions	Approx. 40 × 20 × 175 mm (w/h/d) $1^5/_8 \times {}^{13}/_{16} \times 7$ inches)
Weight	Approx. 95 g (3.4 oz) Including batteries

Design and specifications subject to change without notice.

MICROFILM

MC-Service

COMPACT DISC PLAYER

SONY®

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output: max. 44.6 μW*

     * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optiocal Pick-up Block (including APC borad).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstraling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*

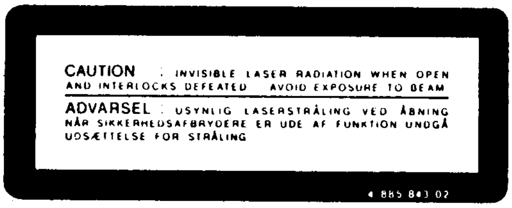
     * Malt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM

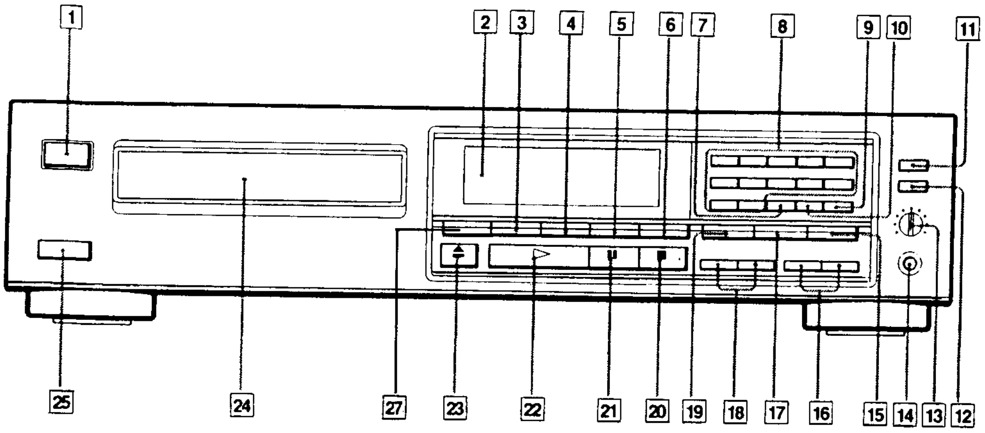
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

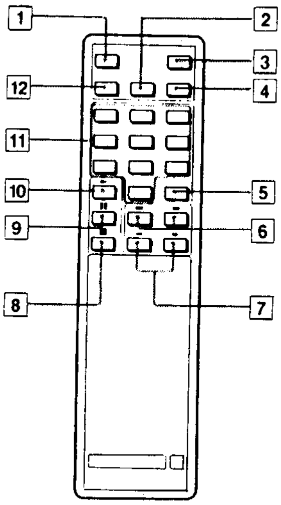
4 885 843 02

VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

SECTION 1
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS





1 POWER switch
2 Display window
3 TIME button
4 A. SPACE button
5 REPEAT button
6 FADER (FADE IN/FADE OUT) button
7 CHECK (program check) button
8 Numeric buttons
9 ▷ 12 (over 12) button
10 CLEAR (program clear) button
11 EDIT/TIME FADE button
12 TIME SET button
13 HEADPHONES LEVEL control (for CDP-M69/M49)
14 HEADPHONES jack (for CDP-M69/M49)
15 PROGRAM button
16 ◀◀ ▶▶ (manual search) buttons
17 SHUFFLE button
18 ⏮ ⏭ (AMS*/RMS**) buttons
19 CONTINUE button
20 ■ (stop) button
21 ❚❚ (pause) button
22 ▶ (play) button
23 ⏏ (open/close) button
24 Disc tray
25 Remote sensor
26 ⏮ ⏭ (AMS*/RMS**)/◀◀ ▶▶ (manual search) buttons
27 PEAK SEARCH button (Australian, E Model).

1 REPEAT button
2 SHUFFLE button
3 FADER (FADE IN/FADE OUT) button
4 PGM (program) button
5 ▷ 10 (over 10) button
6 ⏮ ⏭ AMS buttons
7 ◀◀ ▶▶ (manual search) buttons
8 ■ (stop) button
9 ❚❚ (pause) button
10 ▶ (play) button
11 Numeric buttons
12 CONTINUE button

* AMS is an abbreviation of Automatic Music Sensor.
** RMS is the abbreviation of Random Music Sensor.

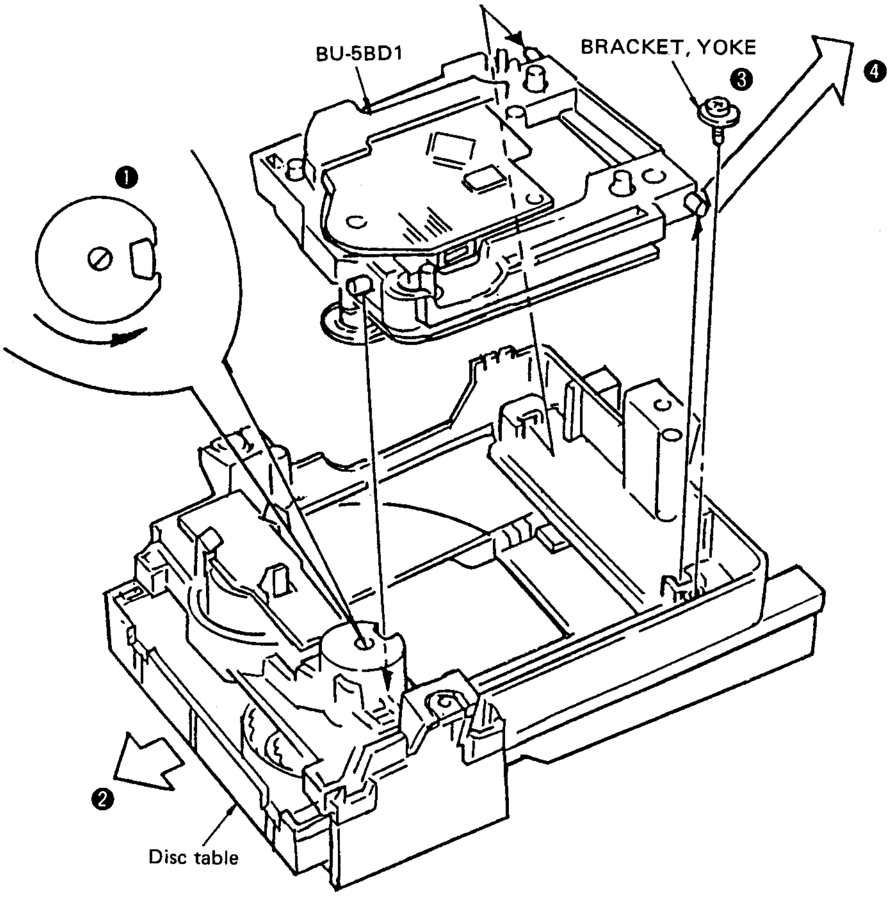
MC-Service

SECTION 2
DISSASSEMBLY OF BASE UNIT

REMOVE THE MD (BU-5BD)

Note: Follow the disassembly procedure in the numerical order given.

❶. Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
❷. Take off the disc table.
❸. Remove the bracket yoke.
❹. Remove the MD (BU-5BD1) to the direction of arrow.


BU-5BD1
BRACKET, YOKE
❸
❹
❶
❷
Disc table

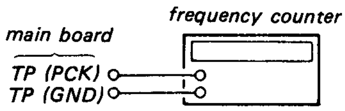
SECTION 3
ELECTRICAL ADJUSTMENTS

ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No. 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.

RF PLL Free-run Frequency Check

Procedure:

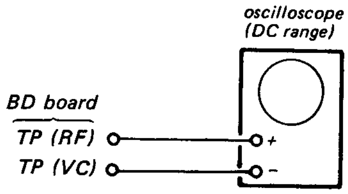


1. Connect the frequency counter to the test points TP (PCK) and TP (GND).
2. Turn POWER switch on.
3. Put the disc (YEDS-18) in and press △ button.
4. Confirm that the reading on the frequency counter is locked at 4.3218MHz.

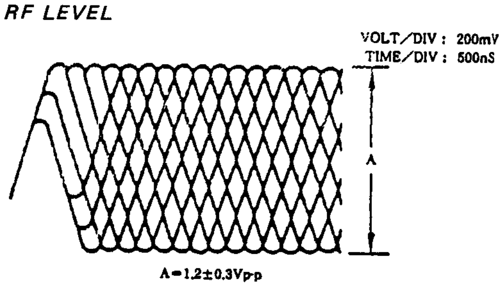
RF LEVEL Check

This adjustment should be made after replacing the Optical Pick-up Block.

Procedure:



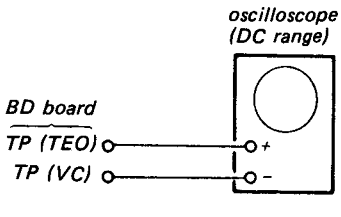
1. Connect oscilloscope to the test points TP (RF) and TP (VC).
2. Turn POWER switch on.
3. Put the disc (YEDS-18) in and press △ button.
4. Confirm that an optimum waveform eye pattern. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



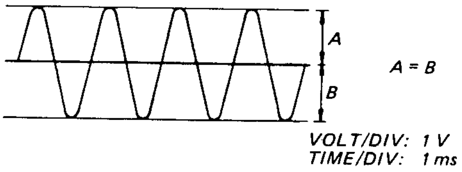
E-F Balance Check

This adjustment should be made after replacing the Optical Pick-up Block.

Procedure:



1. Connect the oscilloscope to the test points TP (TEO) and TP (VC).
2. Ground TP (ADJ), TP (TEST).
3. Turn POWER switch on.
4. Put the disc (YEDS-18) in and press △ button.
5. Confirm that the traverse waveform is symmetrical above and below.
6. After adjustment, remove the TP (ADJ), TP (TEST) in ground.



REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margine, so even if it is slightly off, there is no problem. Therefore, this adjustment is not recomended generally to be performed.

Focus/tracking gains determine the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

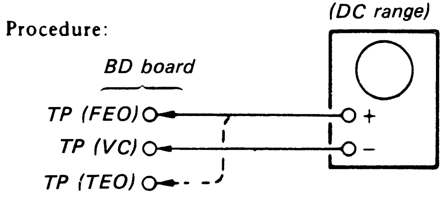
Gain / Symptoms	Focus	Tracking
• The time until music starts becomes longer for STOP → ▷PLAY or automatic selection (⏮ ⏭ buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▷PLAY or automatic selection (⏮ ⏭ buttons pressed.)		low
• Disc table opens shortly after STOP → ▷PLAY.	low or high	
• Sound is interrupted during PLAY. Or time counter display stops progressing.		low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

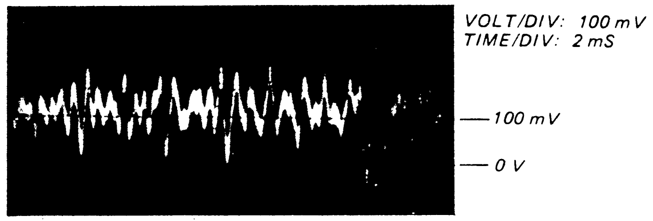
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:

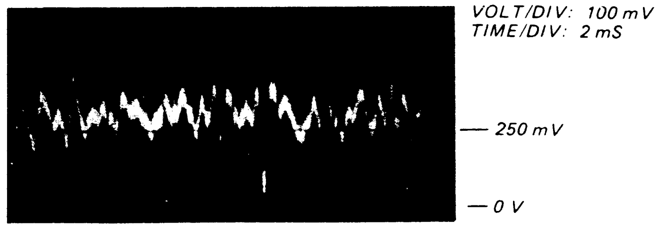


1. Keep the set flat.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
2. Insert the disc (YEDS-18) and press ▷ PLAY button.
3. Connect the oscilloscope to TP (FEI) and TP (FEO).
4. Adjustment RV102 so that the waveform is as shown in the picture below. (focus gain adjustment)

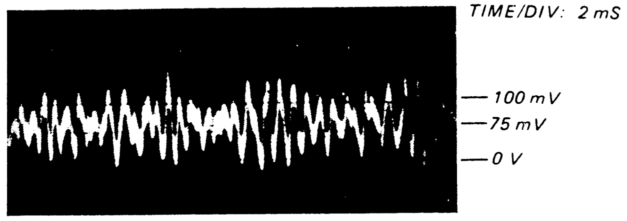


- Incorrent Examples (DC level is quite different from the adjusted waveform) (below)

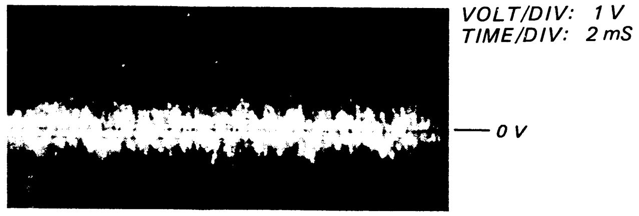
low focus gain



high focus gain

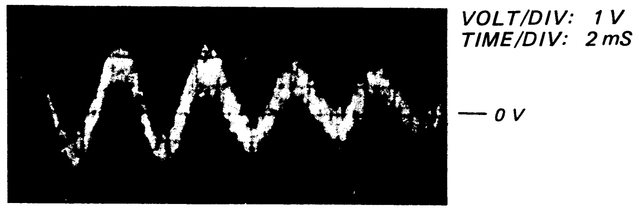


5. Connect the oscilloscpe to BD BOARD TP (TEO).
6. Adjust RV101 so that the waveform is as shown in the picture below. (tracking gain adjustment)

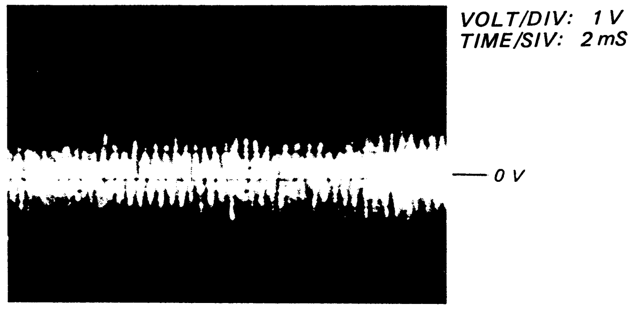


- Incorrect Examples (fundamental wave appears)

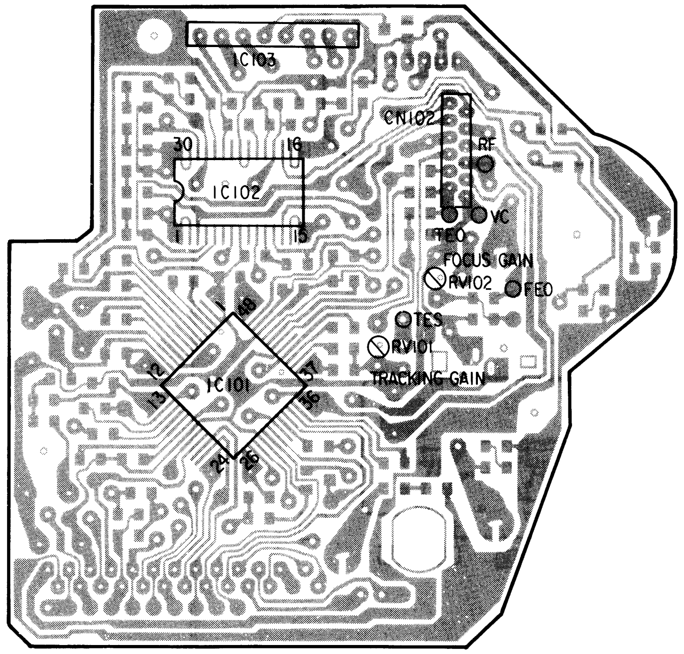
low tracking gain



high tracking gain
(higher frequency of the fundamental wave than above)

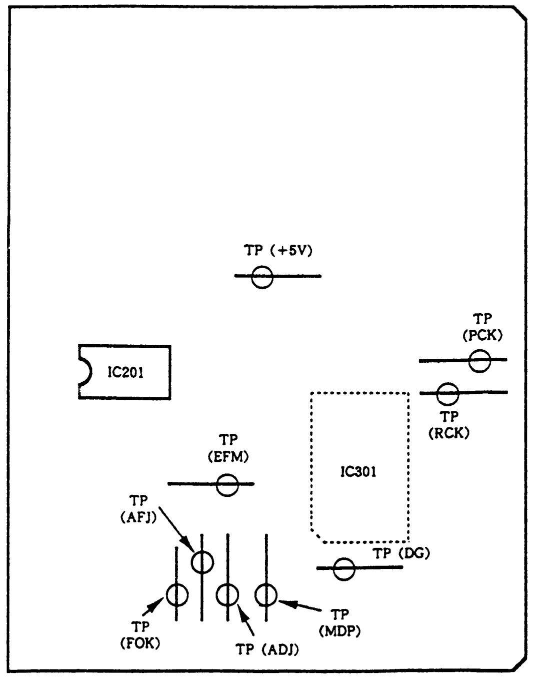


BD BOARD (component side)



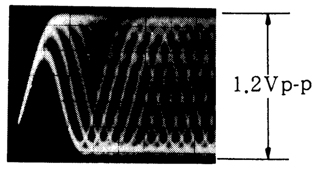
Adjustment Location:

MAIN BOARD (component side)



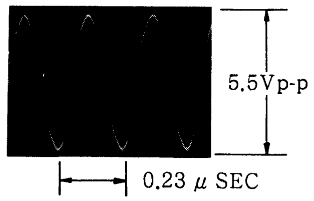
WAVEFORMS

① MODE : PLAY



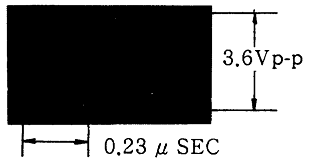
IC101 ㊵ RFO

② MODE : STOP



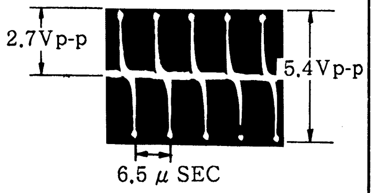
IC401 (57) X2

③ MODE : STOP



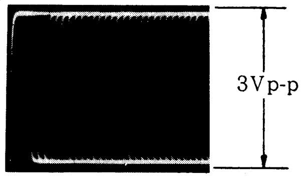
IC401 (56) X1

④ MODE : PLAY



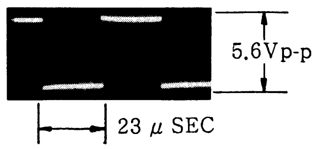
IC301 ④ MDP

⑤ MODE : PLAY

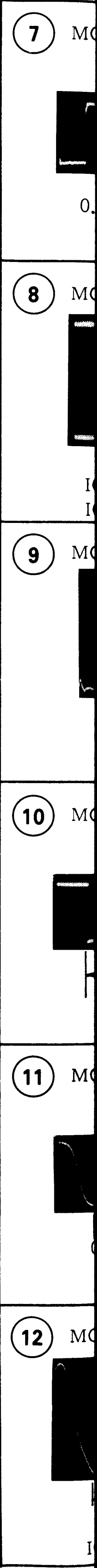


IC301 ㉔ EFM

⑥ MODE : STOP



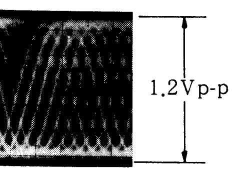
IC301 ㉜ LRCK



SECTION 4
DIAGRAMS

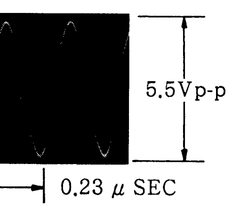
MS

DE : PLAY



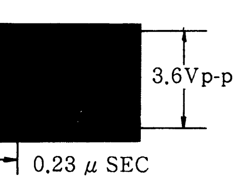
101㊵ RFO

DE : STOP



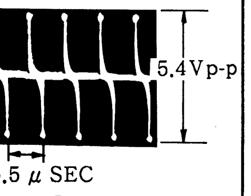
C401(57) X2

DE : STOP



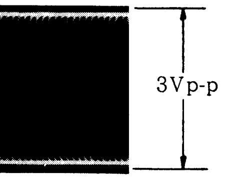
C401(56) X1

DE : PLAY



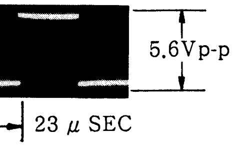
C301④ MDP

E : PLAY



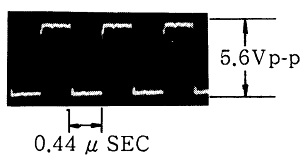
C301㉔ EFM

DE : STOP



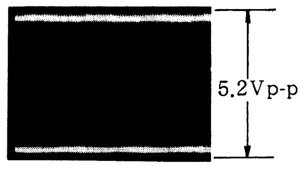
IC301㉜ LRCK

⑦ MODE : STOP



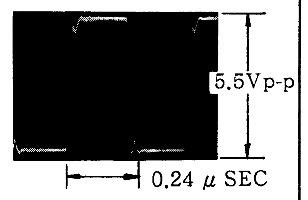
IC301㉟ BCLK

⑧ MODE : PLAY



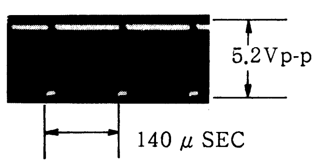
IC302 ⑦ DATA
IC301 ㉞ DATA

⑨ MODE : PLAY



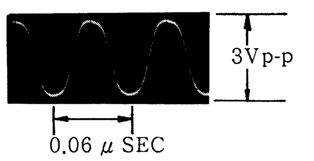
IC301㊶ PLCK

⑩ MODE : STOP



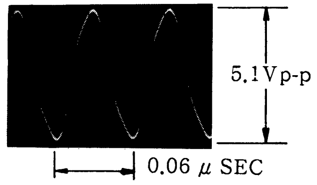
IC301㊻ MNT3

⑪ MODE : STOP



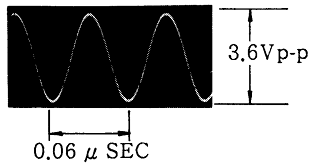
IC301(53) XTAI

⑫ MODE : STOP



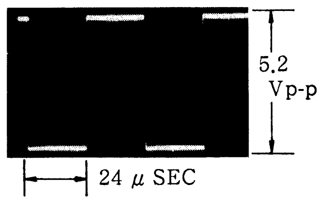
IC302③ XOUT

⑬ MODE : STOP



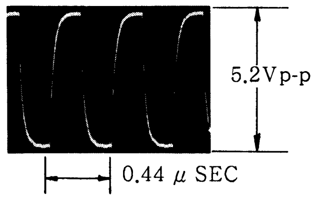
IC302 ④ X IN

⑭ MODE : STOP



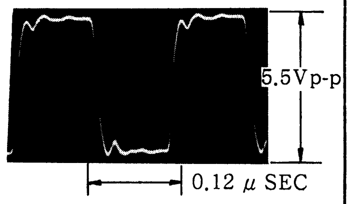
IC302 ⑧ LRCK

⑮ MODE : STOP



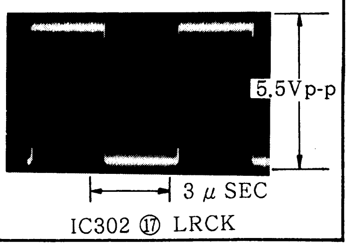
IC302 ⑥ BCK

⑯ MODE : STOP



IC302 ⑬ BCK

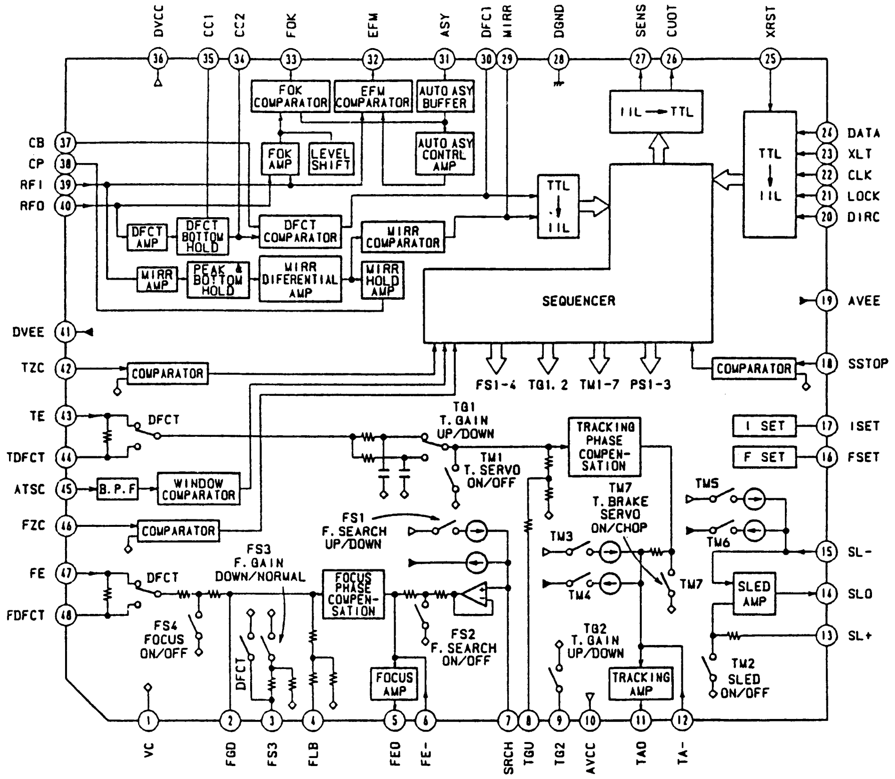
⑰ MODE : STOP



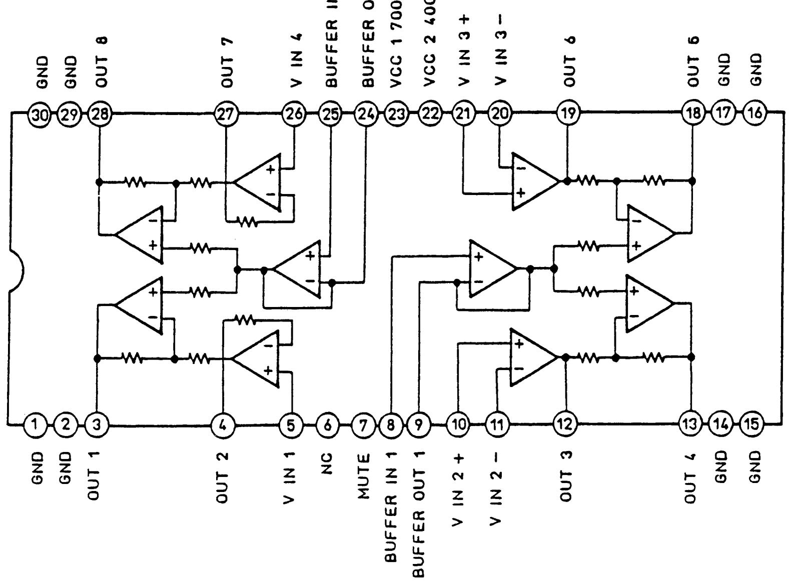
IC302 ⑰ LRCK

• IC BLOCK DIAGRAM

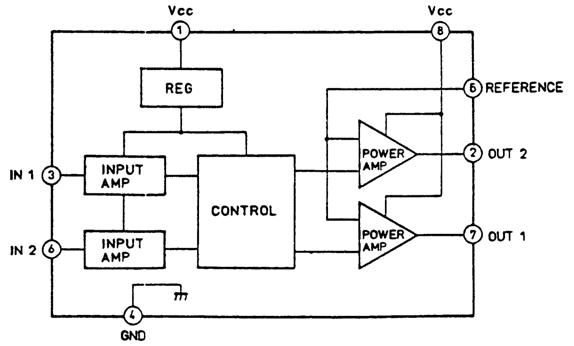
IC101 CXA1372Q


DVCC
CC1
CC2
FOK
EFM
ASY
DFC1
MIRR
DGND
SENS
CUOT
XRST
FOK COMPARATOR
EFM COMPARATOR
AUTO ASY BUFFER
FOK AMP
LEVEL SHIFT
AUTO ASY CONTRL AMP
IIL → TTL
TTL → IIL
CB
CP
RFI
RFO
DFCT AMP
DFCT BOTTOM HOLD
DFCT COMPARATOR
MIRR COMPARATOR
MIRR AMP
PEAK & BOTTOM HOLD
MIRR DIFERENTIAL AMP
MIRR HOLD AMP
SEQUENCER
DATA
XLT
CLK
LOCK
DIRC
AVEE
DVEE
TZC
COMPARATOR
FS1-4 TG1, 2 TM1-7 PS1-3
COMPARATOR
SSTOP
TE
DFCT
TG1 T. GAIN UP/DOWN
TRACKING PHASE COMPEN-SATION
I SET
ISET
F SET
FSET
TDFCT
TM1 T. SERVO ON/OFF
ATSC
B.P.F
WINDOW COMPARATOR
TM7 T. BRAKE SERVO ON/CHOP
TM5
TM6
FZC
COMPARATOR
FS1 F. SEARCH UP/DOWN
TM3
SL-
FS3 F. GAIN DOWN/NORMAL
FE
DFCT
FOCUS PHASE COMPEN-SATION
TM4
TM7
SLED AMP
SLO
FDFCT
FS4 FOCUS ON/OFF
FS2 F. SEARCH ON/OFF
TG2 T. GAIN UP/DOWN
SL+
DFCT
FOCUS AMP
TRACKING AMP
TM2 SLED ON/OFF
VC
FGD
FS3
FLB
FEO
FE-
SRCH
TGU
TG2
AVCC
TAO
TA-

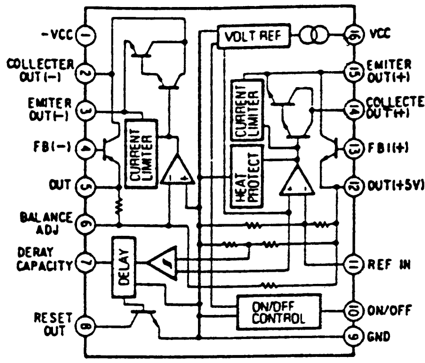
IC102
LA6532M


GND
GND
OUT 8
OUT 7
V IN 4
BUFFER IN 2
BUFFER OUT 2
VCC 1 700MA
VCC 2 400MA
V IN 3 +
V IN 3 −
OUT 6
OUT 5
GND
GND
GND
GND
OUT 1
OUT 2
V IN 1
NC
MUTE
BUFFER IN 1
BUFFER OUT 1
V IN 2 +
V IN 2 −
OUT 3
OUT 4
GND
GND

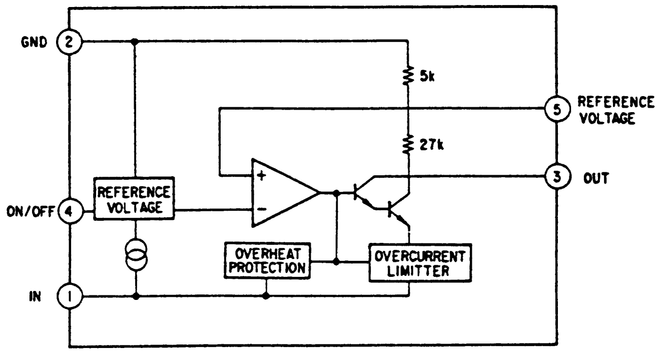
IC103 M54641L


Vcc
Vcc
REG
REFERENCE
IN 1
INPUT AMP
CONTROL
POWER AMP
OUT 2
IN 2
INPUT AMP
POWER AMP
OUT 1
GND

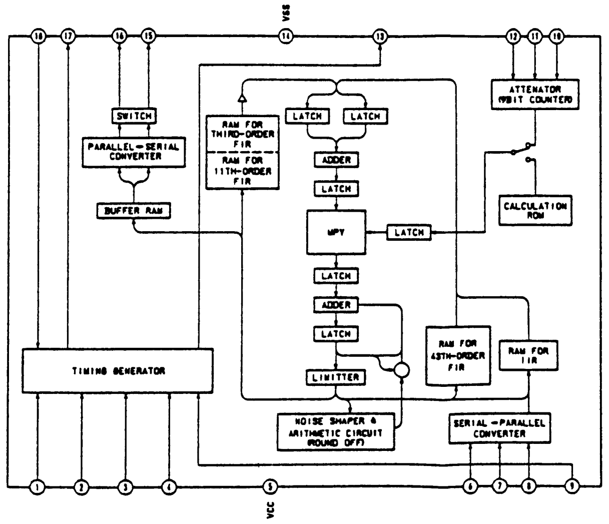
IC201 M5290P-16


-VCC
COLLECTER OUT(−)
EMITER OUT(−)
FB(−)
OUT
BALANCE ADJ
DERAY CAPACITY
RESET OUT
VOLT REF
CURRENT LIMITER
CURRENT LIMITER
HEAT PROTECT
DELAY
ON/OFF CONTROL
VCC
EMITER OUT(+)
COLLECTER OUT(+)
FB(+)
OUT(+5V)
REF IN
ON/OFF
GND

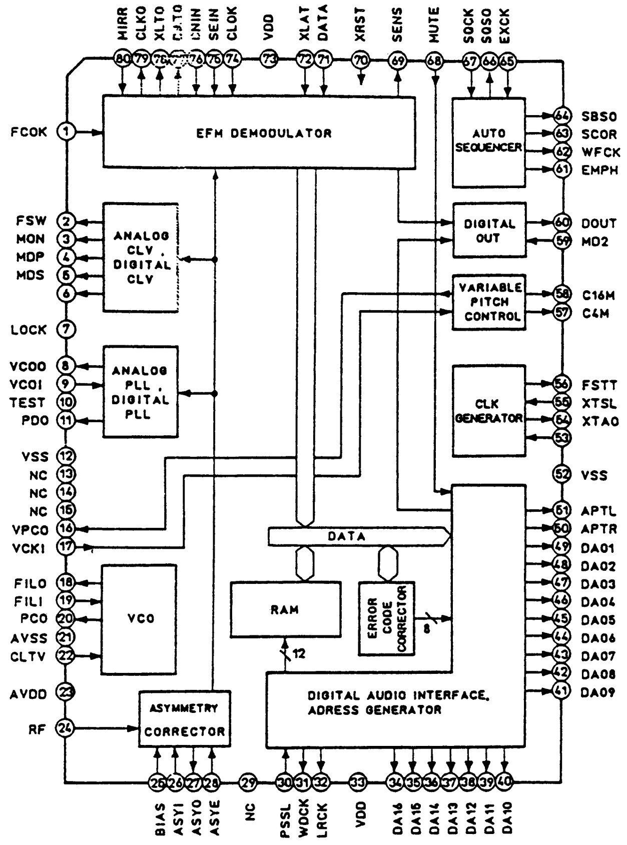
IC202 M5293L


GND
5k
27k
REFERENCE VOLTAGE
OUT
ON/OFF
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
IN

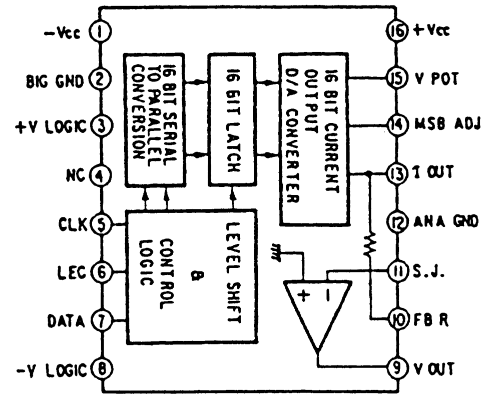
IC302 CXD2551P


VSS
SWITCH
PARALLEL→SERIAL CONVERTER
BUFFER RAM
RAM FOR THIRD-ORDER FIR
RAM FOR 11TH-ORDER FIR
LATCH
LATCH
ADDER
LATCH
MPY
LATCH
LATCH
ADDER
LATCH
LIMITTER
ATTENATOR (9BIT COUNTER)
CALCULATION ROM
TIMING GENERATOR
RAM FOR 43TH-ORDER FIR
RAM FOR IIR
NOISE SHAPER & ARITHMETIC CIRCUIT (ROUND OFF)
SERIAL→PARALLEL CONVERTER
VCC

IC301 CXD2500Q

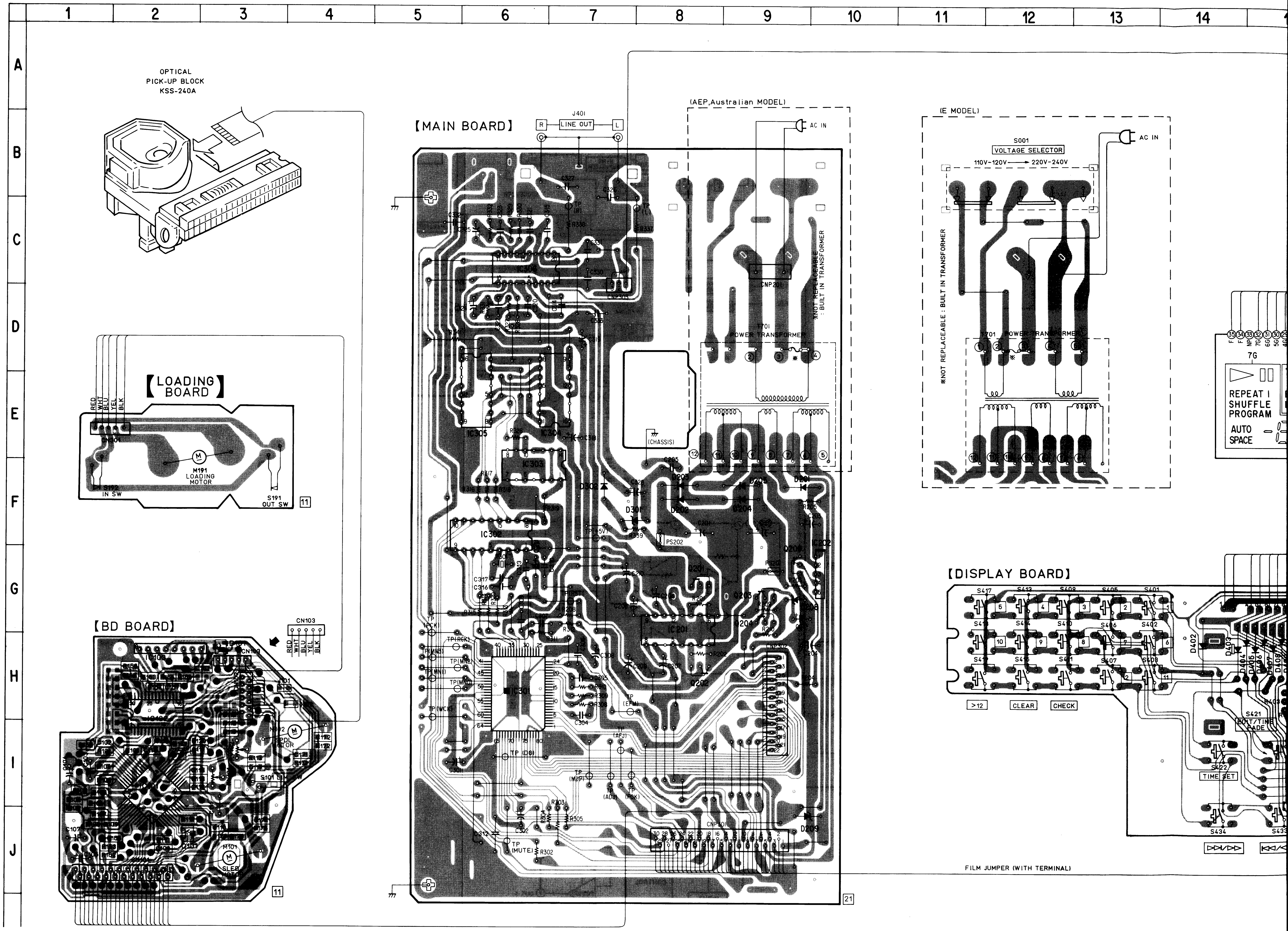

MIRR
CLKO
XLTO
DATO
CNIN
SEIN
CLOK
VDD
XLAT
DATA
XRST
SENS
MUTE
SQCK
SQSO
EXCK
FCOK
EFM DEMODULATOR
AUTO SEQUENCER
SBSO
SCOR
WFCK
EMPH
FSW
MON
MDP
MDS
ANALOG CLV, DIGITAL CLV
DIGITAL OUT
DOUT
MD2
VARIABLE PITCH CONTROL
C16M
C4M
LOCK
VCOO
VCOI
TEST
PDO
ANALOG PLL, DIGITAL PLL
CLK GENERATOR
FSTT
XTSL
XTAO
VSS
NC
NC
NC
VPCO
VCKI
VSS
APTL
APTR
DATA
FILO
FILI
PCO
AVSS
CLTV
VCO
RAM
ERROR CODE CORRECTOR
8
12
DA01
DA02
DA03
DA04
DA05
DA06
DA07
DA08
DA09
AVDD
RF
ASYMMETRY CORRECTOR
DIGITAL AUDIO INTERFACE, ADRESS GENERATOR
BIAS
ASYI
ASYO
ASYE
NC
PSSL
WDCK
LRCK
VDD
DA16
DA15
DA14
DA13
DA12
DA11
DA10

IC304, 305
PCM56P

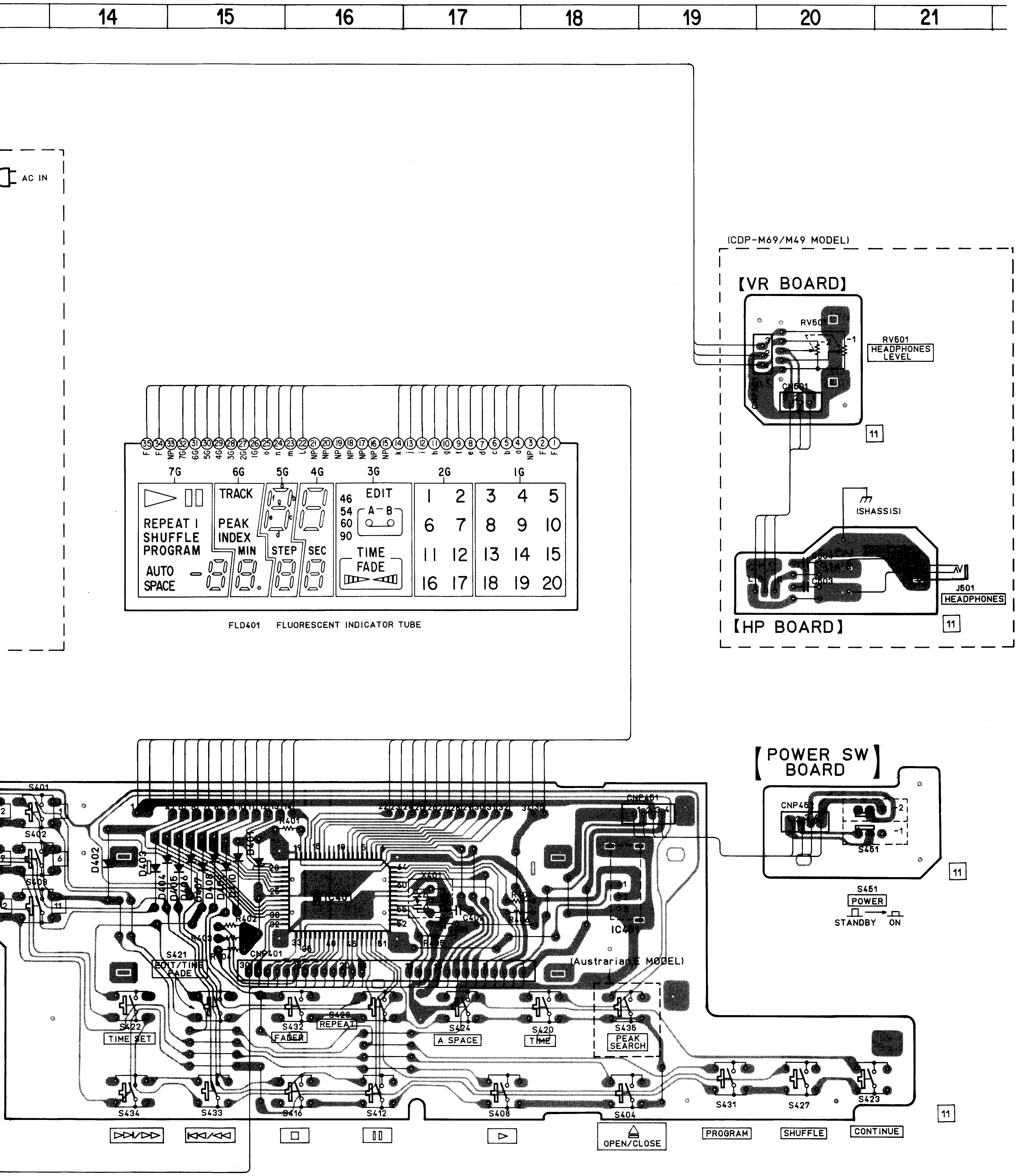

−Vcc
BIG GND
+V LOGIC
NC
CLK
LEC
DATA
−V LOGIC
16 BIT SERIAL TO PARALLEL CONVERSION
16 BIT LATCH
16 BIT CURRENT OUTPUT D/A CONVERTER
CONTROL LOGIC & LEVEL SHIFT
+Vcc
V POT
MSB ADJ
I OUT
ANA GND
S.J.
FB R
V OUT

MC-Service

4-1. PRINTED WIRING BOARDS


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
OPTICAL
PICK-UP BLOCK
KSS-240A
【MAIN BOARD】
J401
R
LINE OUT
L
(AEP,Australian MODEL)
AC IN
CNP201
T701
POWER TRANSFORMER
※NOT REPLACEABLE : BUILT IN TRANSFORMER
(CHASSIS)
(E MODEL)
S001
VOLTAGE SELECTOR
110V-120V
220V-240V
AC IN
T701
POWER TRANSFORMER
※NOT REPLACEABLE : BUILT IN TRANSFORMER
【LOADING BOARD】
RED
WHT
BLU
YEL
BLK
CN301
M191
LOADING
MOTOR
S192
IN SW
S191
OUT SW
11
【BD BOARD】
CN103
RED
WHT
BLU
YEL
BLK
IC101
IC102
M102
SPDL MOTOR
S101
M101
SLED MOTOR
C107
11
IC306
IC305
IC304
IC303
IC302
IC301
IC201
D301
D302
D201
D202
D203
D204
D205
D209
PS202
TP (+5V)
TP (PCK)
TP (RCK)
TP (MN3)
TP (MN1)
TP (MN2)
TP (MN4)
TP (WCK)
TP (EFM)
TP (AFJ)
TP (D6)
TP (MDP)
TP (ADB)
TP (FOK)
TP (MUTE)
CNP101
R302
R303
R304
R305
C302
C304
C312
C316
C317
21
【DISPLAY BOARD】
S401
S402
S403
S404
S405
S406
S407
S408
S409
S410
S411
S412
S413
S414
S415
S416
S417
D402
D403
D404
D405
D406
S421
EDIT/TIME FADE
S422
TIME SET
S434
S433
>12
CLEAR
CHECK
7G
REPEAT 1
SHUFFLE
PROGRAM
AUTO
SPACE
FILM JUMPER (WITH TERMINAL)

MC-Service


14
15
16
17
18
19
20
21
AC IN
(CDP-M69/M49 MODEL)
[VR BOARD]
RV501
RV501
HEADPHONES LEVEL
CN501
(CHASSIS)
J501
HEADPHONES
[HP BOARD]
7G
6G
5G
4G
3G
2G
1G
TRACK
EDIT
A–B
REPEAT I
SHUFFLE
PROGRAM
PEAK
INDEX
MIN
STEP
SEC
TIME
FADE
AUTO
SPACE
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
46
54
60
90
FLD401 FLUORESCENT INDICATOR TUBE
[POWER SW BOARD]
CNP451
S451
S451
POWER
STANDBY ON
CNP401
CNP451
IC401
IC451
R401
R402
R403
R404
D402
D403
D404
D405
D406
D407
D408
D409
D410
(Austrarian E MODEL)
S401
S402
S403
S421
EDIT/TIME FADE
S422
TIME SET
S432
FADER
S428
REPEAT
S424
A SPACE
S420
TIME
S435
PEAK SEARCH
S434
S433
S416
S412
S408
S404
S431
S427
S423
OPEN/CLOSE
PROGRAM
SHUFFLE
CONTINUE
11

• Semiconductor Location

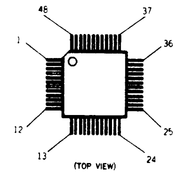
Ref. No.	Location	Ref. No.	Location
D101	H-3	IC101	I-2
D201	F-9	IC102	H-2
D202	F-8	IC103	H-2
D203	F-8	IC201	G-8
D204	F-9	IC202	G-10
D205	F-9	IC301	H-6
D208	G-9	IC302	F-6
D209	J-10	IC303	F-6
D301	F-8	IC304	E-7
D302	F-7	IC305	E-6
D401	H-15	IC306	C-6
D402	H-14	IC401	H-16
D403	H-14	IC451	H-18
D404	H-15		
D405	H-15	Q101	J-2
D406	H-15	Q201	G-8
D407	H-15	Q202	H-8
D408	H-15	Q203	G-9
D409	H-15	Q204	G-9
D410	H-15	Q206	G-9

Note:

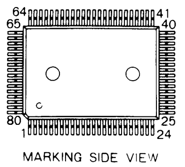
- o—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▩ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

• Semiconductor Lead Layouts

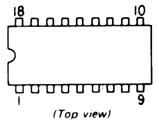
CXA1372Q


48
37
1
36
12
25
13
24
(TOP VIEW)

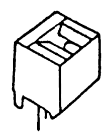
CXD2500Q


64
41
65
40
80
25
1
24
MARKING SIDE VIEW

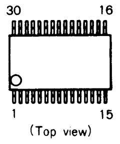
CXD2551P


18
10
1
9
(Top view)

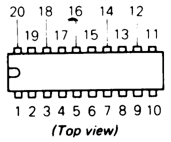
GP1U52XB



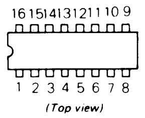
LA6532M


30
16
1
15
(Top view)

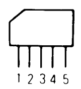
M5204P


20 18 16 14 12
19 17 15 13 11
1 2 3 4 5 6 7 8 9 10
(Top view)

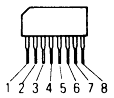
M5290P-16
PCM56P


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

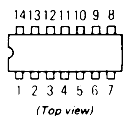
M5293L



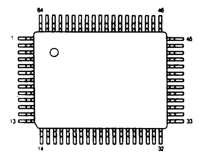
M54641L



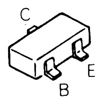
SN74HCU04N


14 13 12 11 10 9 8
1 2 3 4 5 6 7
(Top view)

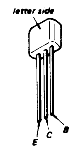
µPD75212AGF-522-3BE


64
46
1
45
13
33
14
32

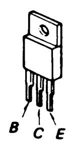
DTC144EK



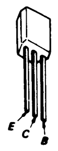
2SA1175-HFE


letter side
E
C
B

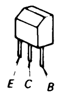
2SB1094-L



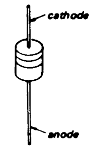
2SC2458-YGR



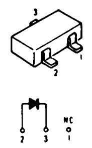
2SD774-34



HZS9B2L
RD6.2ES-B2
RD6.8ES-L3
RD8.2ES-B2
1SS202-1
11ES2


cathode
anode

RD4.3M-B1



MC-Service

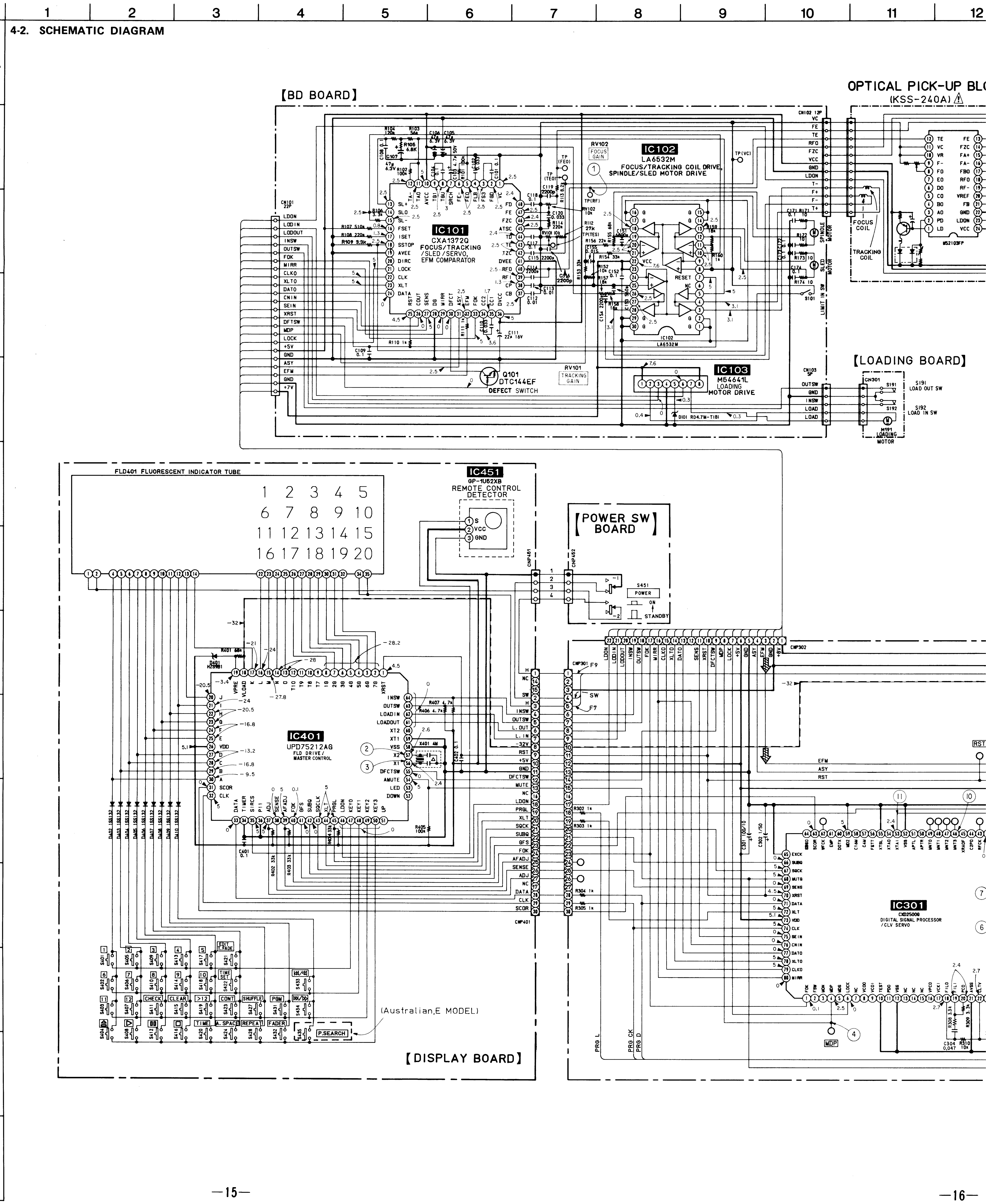
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ☐ : adjustment for repair.

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : stop
- Voltages are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : CD

4-2. SCHEMATIC DIAGRAM



1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H I J K
[BD BOARD]
IC101 CXA1372Q FOCUS/TRACKING /SLED/SERVO, EFM COMPARATOR
IC102 LA6532M FOCUS/TRACKING COIL DRIVE, SPINDLE/SLED MOTOR DRIVE
IC103 M54641L LOADING MOTOR DRIVE
RV102 FOCUS GAIN
RV101 TRACKING GAIN
Q101 DTC144EF DEFECT SWITCH
OPTICAL PICK-UP BLO
(KSS-240A)
FOCUS COIL
TRACKING COIL
SPINDLE MOTOR
SLED MOTOR
LIMIT IN SW S101
[LOADING BOARD]
S191 LOAD OUT SW
S192 LOAD IN SW
M191 LOADING MOTOR
FLD401 FLUORESCENT INDICATOR TUBE
IC451 GP-1U62XB REMOTE CONTROL DETECTOR
[POWER SW BOARD]
S451 POWER
ON STANDBY
IC401 UPD75212AG FLD DRIVE/ MASTER CONTROL
IC301 CXD2500 DIGITAL SIGNAL PROCESSOR /CLV SERVO
(Australian,E MODEL)
P.SEARCH
[DISPLAY BOARD]
MDP
RST
EFM
ASY

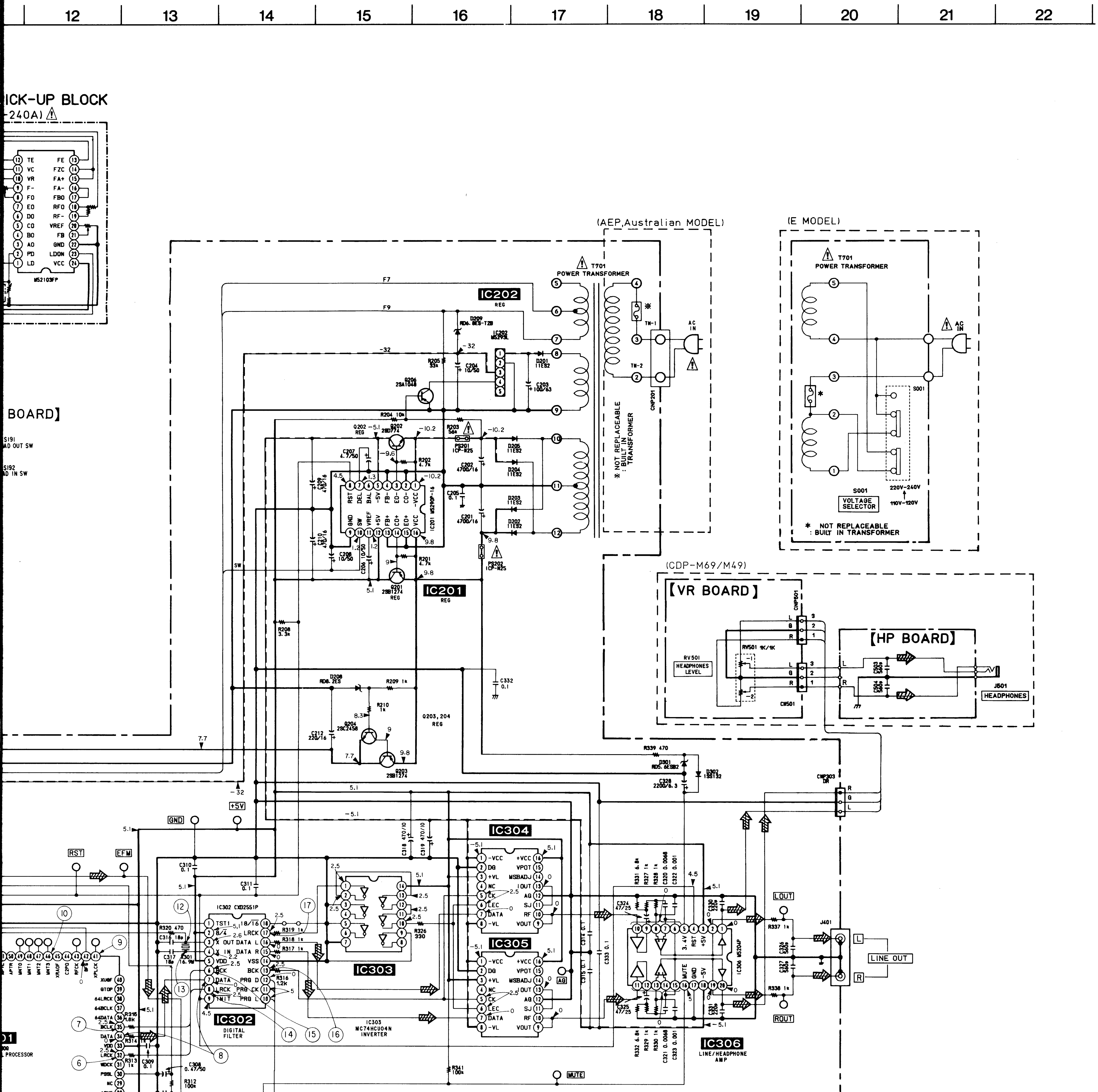
round

10M Ω).
roduc-

roduc-

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MC-Service


12
13
14
15
16
17
18
19
20
21
22
ICK-UP BLOCK
-240A) ⚠
M52103FP
BOARD】
(AEP,Australian MODEL)
(E MODEL)
⚠ T701 POWER TRANSFORMER
AC IN
TH-1
TH-2
CNP201
※ NOT REPLACEABLE : BUILT IN TRANSFORMER
S001
VOLTAGE SELECTOR
220V-240V
110V-120V
* NOT REPLACEABLE : BUILT IN TRANSFORMER
IC202 REG
IC201 REG
Q203,204 REG
(CDP-M69/M49)
【VR BOARD】
RV501 HEADPHONES LEVEL
CNP501
CN501
【HP BOARD】
J501 HEADPHONES
GND
+5V
RST
EFM
IC302 CXD2551P
IC302 DIGITAL FILTER
IC303 MC74HCU04N INVERTER
IC304
IC305
IC304,305 PCM56P-L D/A CONVERTER
IC306 LINE/HEADPHONE AMP
AG
MUTE
LOUT
ROUT
J401
LINE OUT
L
R
CNP303
-32
5.1
-5.1
7.7
F7
F9

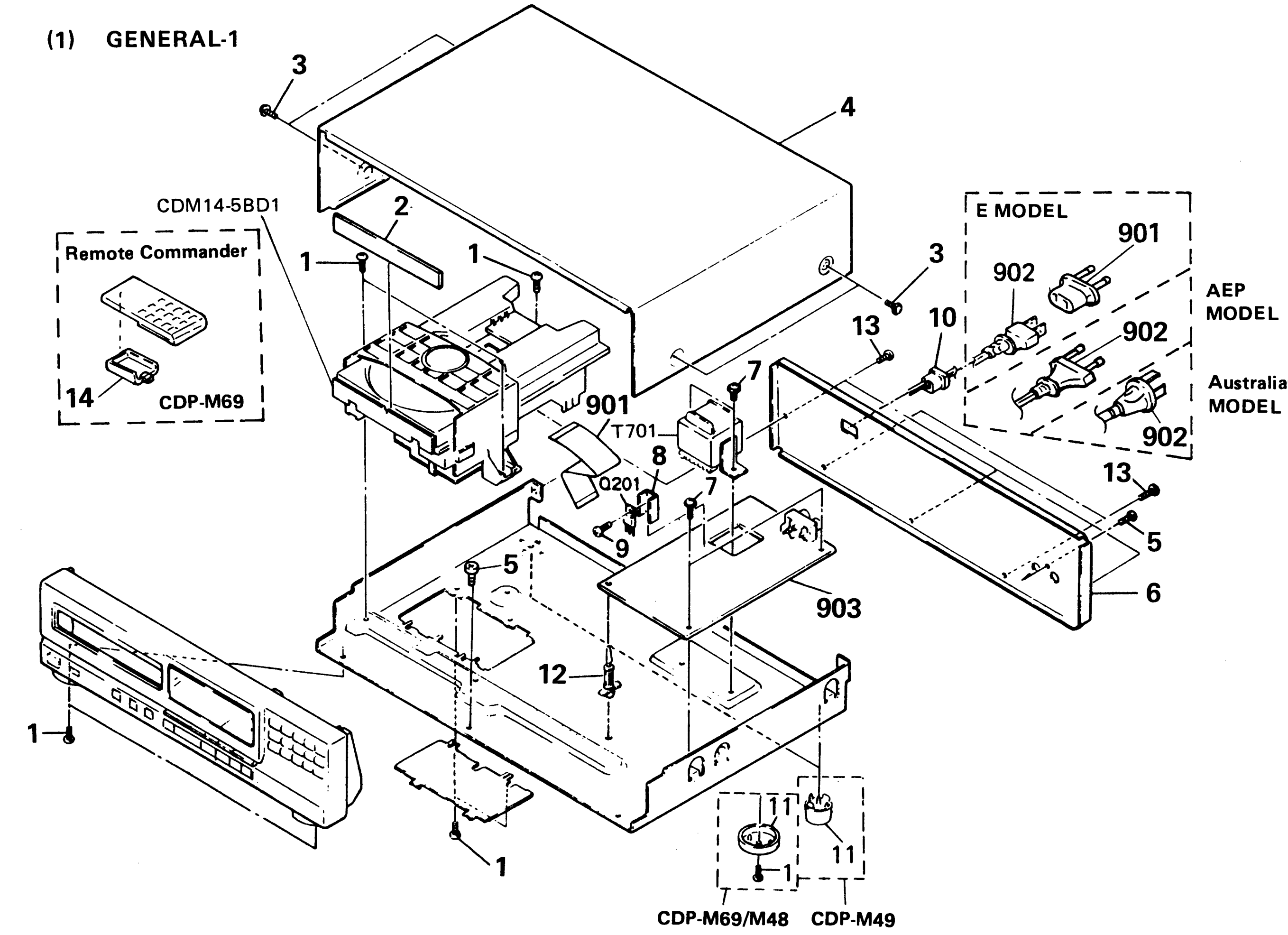
SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) ... KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

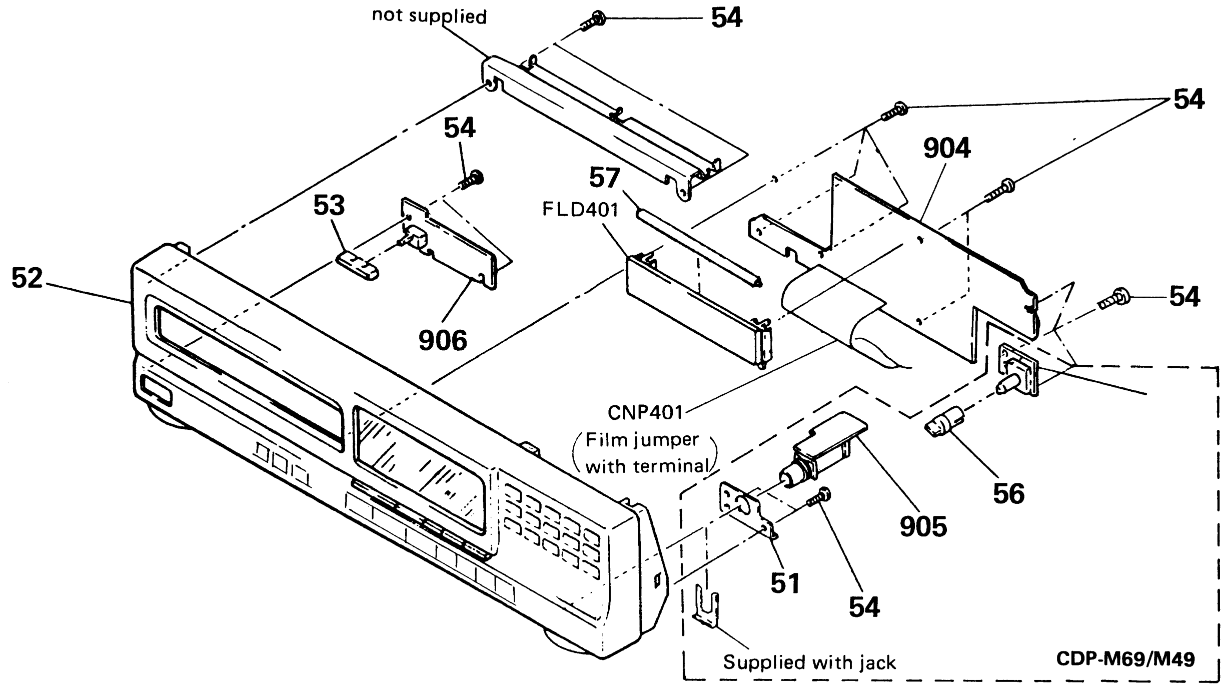
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) GENERAL-1


3
4
CDM14-5BD1
2
Remote Commander
1
1
14
CDP-M69
E MODEL
901
902
3
AEP MODEL
13
10
902
Australian MODEL
902
7
901
T701
8
Q201
7
9
13
5
5
6
903
12
1
1
11
11
1
CDP-M69/M48
CDP-M49

No.	Part No.	Description	Remarks
1	7-682-548-04	SCREW +BVTT 3X8 (S)	
2	4-929-534-01	PANEL, LOADING	
3	3-704-366-31	SCREW (CASE) (M3X6)	
4	4-919-376-31	CASE	
5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
6	*4-927-388-11	(M69:AEP)...PANEL, BACK	
	*4-927-388-21	(M69:E).....PANEL, BACK	
	*4-927-388-41	(M49:AEP)...PANEL, BACK	
	*4-927-388-51	(M49:E).....PANEL, BACK	
	*4-927-388-81	(M49:AUS)...PANEL, BACK	
	*4-927-388-71	(M48:AEP)...PANEL, BACK	
7	2-383-566-00	SCREW +PTTWH 3X8	
8	4-902-345-01	HEAT SINK	
9	7-682-547-09	SCREW +B 3X6	
10	*3-703-244-00	(AEP,AUS)...BUSHING (2104), CORD	
	*3-703-571-11	(E).........BUSHING (4516), CORD	
11	4-933-601-01	(M49).......FOOT	
	*4-934-883-01	(M48/M69)...FOOT	
12	*4-924-098-31	HOLDER, PC BOARD	
13	7-682-547-09	SCREW +BVTT 3X6 (S)	
14	4-384-285-01	(M69)...COVER, BATTERY	
901	1-575-002-11	WIRE, FLAT TYPE (22 CORE)	
902	⚠.1-575-104-11	(E).....CORD, POWER	
	⚠.1-575-453-11	(AEP)...CORD, POWER	
	⚠.1-575-677-11	(AUS)...CORD, POWER	
903	*A-4617-495-A	(AEP,AUS)...MOUNTED PCB, MAIN	
	*A-4617-496-A	(E).........MOUNTED PCB, MAIN	
910	⚠.1-526-565-12	(AE)...AC PLUG ADAPTOR	

(2) GENERAL-2


not supplied
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904
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FLD401
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906
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54
CNP401
Film jumper with terminal
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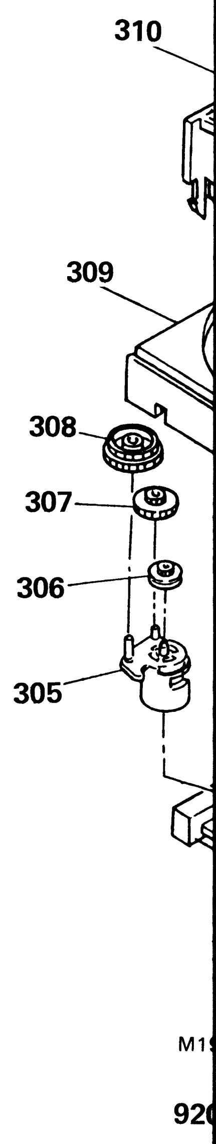
905
51
54
Supplied with jack
CDP-M69/M49

No.	Part No.	Description	Remarks
51	4-927-374-01	(M69/M49)...BRACKET (JACK)	
52	X-4917-595-1	(M69:AEP).....PANEL ASSY, FRONT	
	X-4917-602-1	(M69:E).......PANEL ASSY, FRONT	
	X-4917-596-1	(M48:AEP).....PANEL ASSY, FRONT	
	X-4917-597-1	(M49:AEP).....PANEL ASSY, FRONT	
	X-4917-603-1	(M49:E,AUS)...PANEL ASSY, FRONT	
53	4-929-535-01	BUTTON (POWER)	
54	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
56	4-933-116-01	(M69/M49)...KNOB (C, TYPE), VOL	
57	*4-927-353-01	SHEET (FL)	
904	*1-634-642-11	PC BOARD, DISPLAY	
905	*1-634-643-11	(M49/M69)...PC BOARD, HP	
906	*1-634-641-11	PC BOARD, POWER SW	
908	*1-634-644-11	(M49/M69)...PC BOARD, VR	
CNP401	1-535-825-11	JUMPER, FILM (WITH TERMINAL)	
FLD401	1-519-556-11	INDICATOR TUBE, FLUORESCENT	

(3) MD SECTIO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305
M1
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No.	Part No.	Des
301	4-933-111-01	CHA
302	7-621-775-10	SCR
303	*4-917-583-21	BRA
304	4-927-649-01	BEL
305	4-933-109-01	CAM
306	4-927-651-01	PUL
307	4-927-628-01	GEA
308	4-933-107-01	GEA
309	4-933-112-01	TAB

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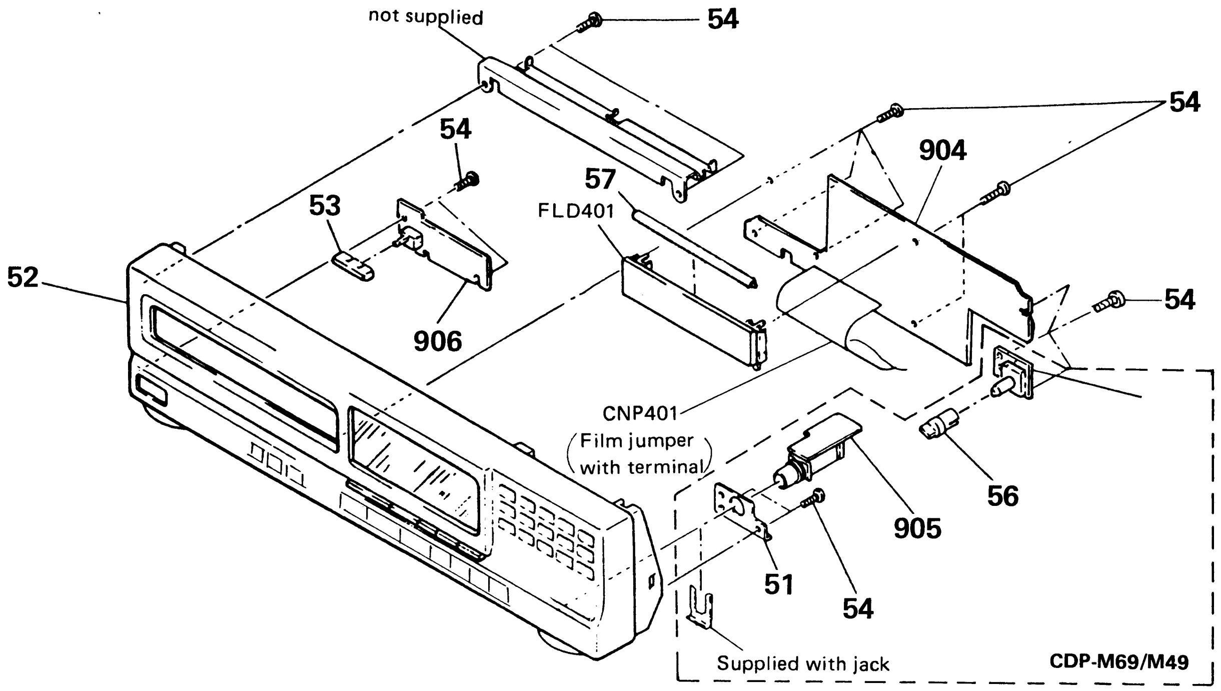
(2) GENERAL-2


not supplied
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57
FLD401
904
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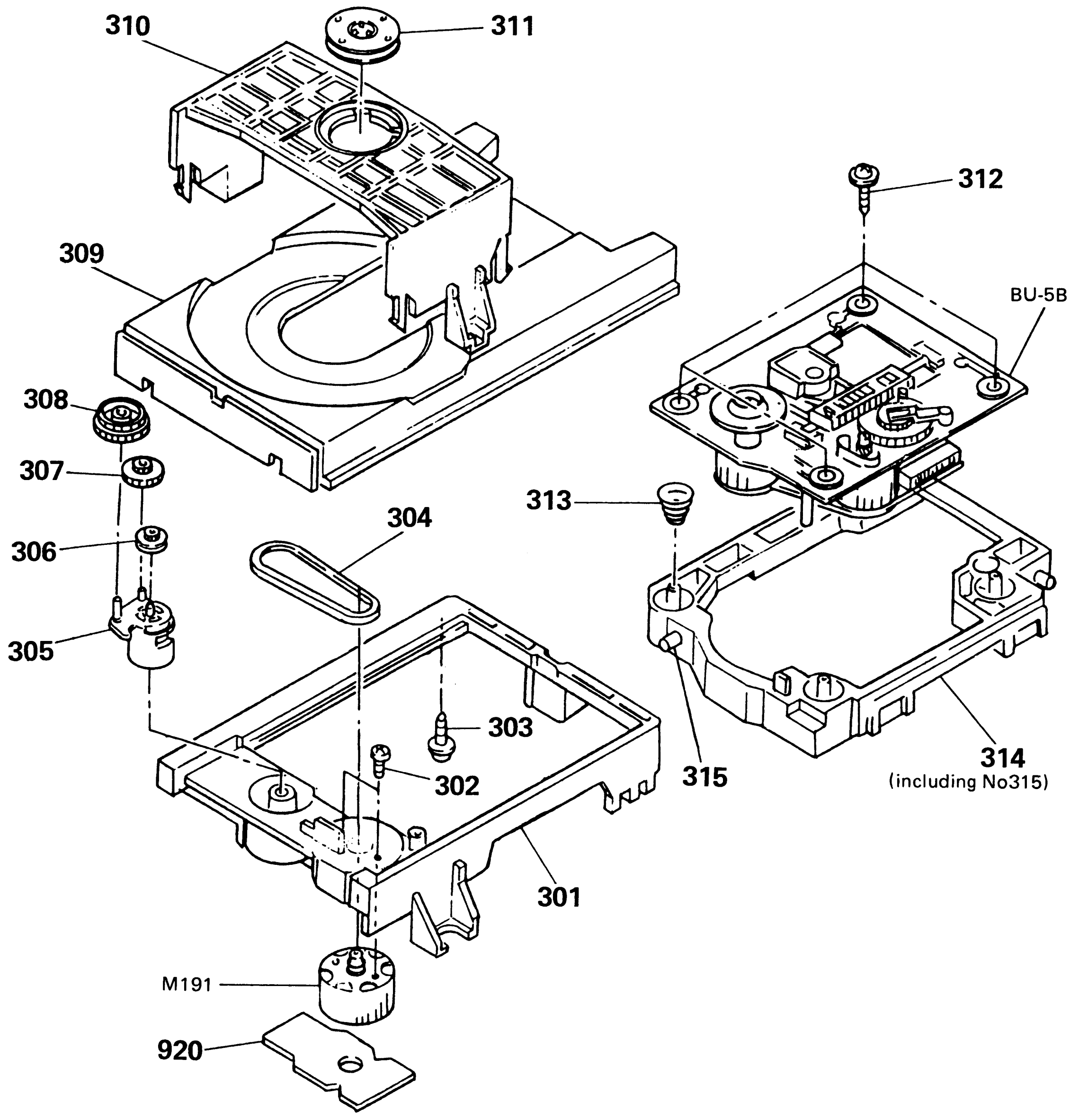
906
CNP401
(Film jumper with terminal)
56
905
51
54
Supplied with jack
CDP-M69/M49

No.	Part No.	Description	Remarks
51	4-927-374-01	(M69/M49)...BRACKET (JACK)	
52	X-4917-595-1	(M69:AEP).....PANEL ASSY, FRONT	
	X-4917-602-1	(M69:E).......PANEL ASSY, FRONT	
	X-4917-596-1	(M48:AEP).....PANEL ASSY, FRONT	
	X-4917-597-1	(M49:AEP).....PANEL ASSY, FRONT	
	X-4917-603-1	(M49:E,AUS)...PANEL ASSY, FRONT	
53	4-929-535-01	BUTTON (POWER)	
54	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
56	4-933-116-01	(M69/M49)...KNOB (C, TYPE), VOL	
57	*4-927-353-01	SHEET (FL)	

No.	Part No.	Description	Remarks
904	*1-634-642-11	PC BOARD, DISPLAY	
905	*1-634-643-11	(M49/M69)...PC BOARD, HP	
906	*1-634-641-11	PC BOARD, POWER SW	
908	*1-634-644-11	(M49/M69)...PC BOARD, VR	
CNP401	1-535-825-11	JUMPER, FILM (WITH TERMINAL)	
FLD401	1-519-556-11	INDICATOR TUBE, FLUORESCENT	

(3) MD SECTION-1 (CDM14-5BD1)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BU-5BD1
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(including No315)
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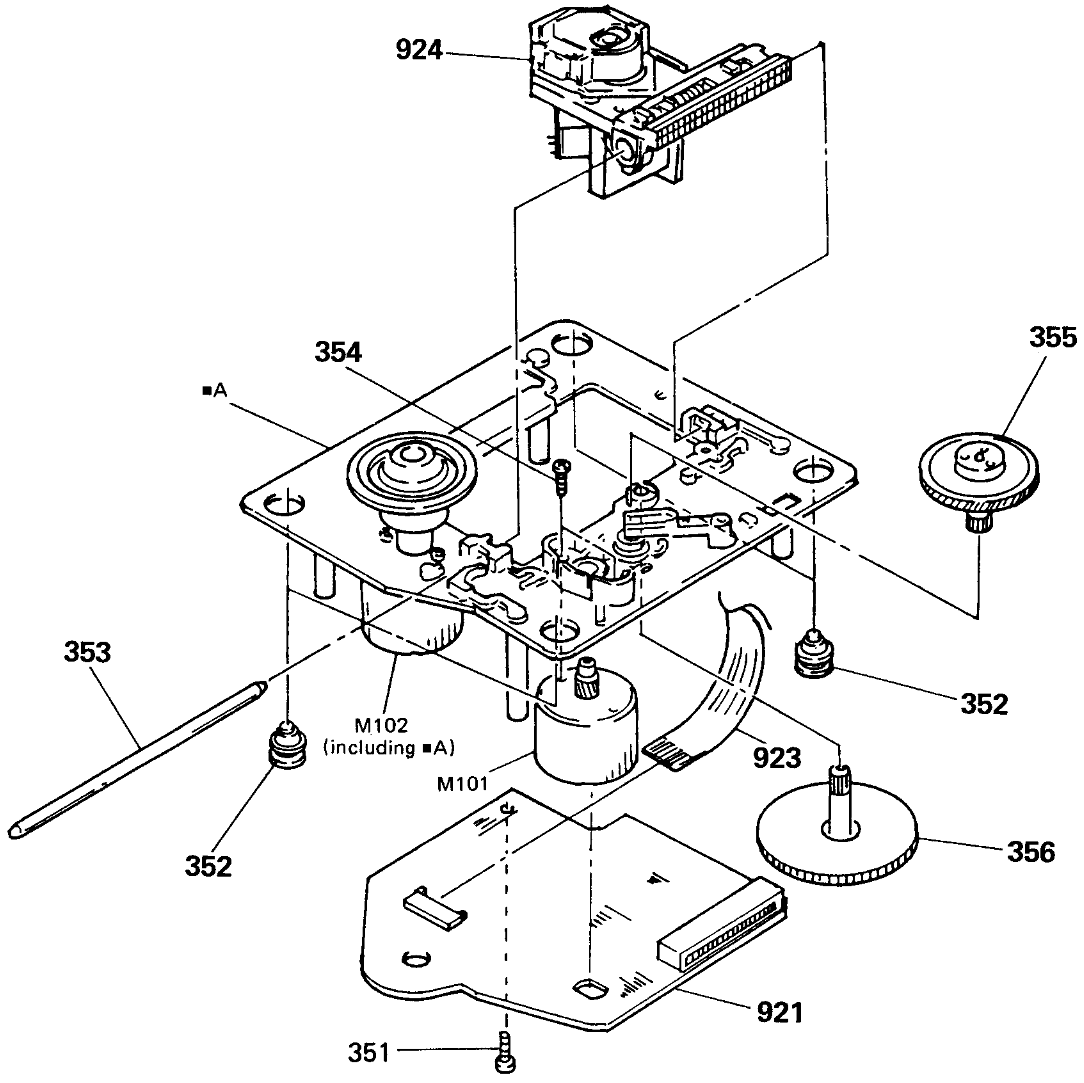
M191
920

No.	Part No.	Description	Remarks
301	4-933-111-01	CHASSIS (MD)	
302	7-621-775-10	SCREW +B 2.6X4	
303	*4-917-583-21	BRACKET, YOKE	
304	4-927-649-01	BELT	
305	4-933-109-01	CAM	
306	4-927-651-01	PULLEY (S)	
307	4-927-628-01	GEAR (C)	
308	4-933-107-01	GEAR (PL)	
309	4-933-112-01	TABLE, DISK	

No.	Part No.	Description	Remarks
310	4-933-110-01	HOLDER (MG)	
311	A-4675-347-A	MG ASSY	
312	4-933-134-01	SCREW (+PTPWH M2.6X6)	
313	4-917-541-01	SPRING (B)	
314	4-933-129-01	HOLDER (BU)(INCLUDET SHAFT CAM)	
315	4-933-108-01	SHAFT (CAM)	
920	*1-632-202-11	PC BOARD, LOADING	
M191	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

(4) MD SECTION-2 (BU-5BD1)



No.	Part No.	Description	Remarks
351	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
352	4-933-126-01	INSULATOR (A)	
353	4-917-565-01	SHAFT, SLED	
354	7-621-255-15	SCREW +P 2X3	
355	4-917-567-01	GEAR (M)	
356	4-917-564-01	GEAR (P), FLATNESS	

No.	Part No.	Description	Remarks
921	*A-4617-161-A	MOUNTED PCB, BD	
923	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
924	⚠.8-848-144-11	DEVICE, OPTICAL KSS-240A (RP)	
M101	⚠.X-4917-504-1	ASSY, MOTOR (SLED)	
M102	⚠.X-4917-523-3	ASSY, MOTOR (SPINDLE)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MC-Service

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	1-575-002-11	WIRE, FLAT TYPE (22 CORE)			
902	⚠.1-575-104-11	(E).....CORD, POWER			
	⚠.1-575-453-11	(AEP)...CORD, POWER			
	⚠.1-575-677-11	(AUS)...CORD, POWER			
903	*A-4617-495-A	(AEP,AUS)...MOUNTED PCB, MAIN			
	*A-4617-496-A	(E).........MOUNTED PCB, MAIN			
904	*1-634-642-11	PC BOARD, DISPLAY			
905	*1-634-643-11	(M49/M69)...PC BOARD, HP			
906	*1-634-641-11	PC BOARD, POWER SW			
908	*1-634-644-11	(M49/M69)...PC BOARD, VR			
910	⚠.1-526-565-12	(AE)...AC PLUG ADAPTOR			
920	*1-632-202-11	PC BOARD, LOADING			
921	*A-4617-161-A	MOUNTED PCB, BD			
923	1-575-001-11	WIRE, FLAT TYPE (12 CORE)			
924	⚠.8-848-144-11	DEVICE, OPTICAL KSS-240A (RP)			
C101	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C103	1-126-094-11	ELECT	4.7MF	20%	16V
C104	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C105	1-126-154-11	ELECT	47MF	20%	6.3V
C106	1-126-154-11	ELECT	47MF	20%	6.3V
C107	1-126-154-11	ELECT	47MF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C111	1-131-367-00	TANTALUM	22MF	20%	16V
C112	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C113	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C114	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C115	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C116	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C117	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C120	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C155	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C201	1-126-842-11	ELECT	4700MF	20%	16V

Ref.No.	Part No.	Description			
C202	1-126-842-11	ELECT	4700MF	20%	16V
C203	1-126-880-11	ELECT	100MF	20%	63V
C204	1-126-059-11	ELECT	10MF	20%	50V
C205	1-162-851-11	CERAMIC	0.1MF	20%	16V
C206	1-126-059-11	ELECT	10MF	20%	50V
C207	1-124-045-00	ELECT	4.7MF	20%	50V
C208	1-126-059-11	ELECT	10MF	20%	50V
C209	1-126-012-11	ELECT	470MF	20%	16V
C210	1-126-012-11	ELECT	470MF	20%	16V
C212	1-126-024-11	ELECT	220MF	20%	16V
C301	1-124-994-11	ELECT	100MF	20%	10V
C302	1-126-301-11	ELECT	1MF	20%	50V
C304	1-136-161-00	FILM	0.047MF	5%	50V
C305	1-161-374-11	CERAMIC	0.0015MF	30%	16V
C306	1-164-159-11	CERAMIC	0.1MF		50V
C307	1-162-306-11	CERAMIC	0.01MF	20%	16V
C308	1-126-300-11	ELECT	0.47MF	20%	50V
C309	1-164-159-11	CERAMIC	0.1MF		50V
C310	1-164-159-11	CERAMIC	0.1MF		50V
C311	1-164-159-11	CERAMIC	0.1MF		50V
C312	1-164-159-11	CERAMIC	0.1MF		50V
C313	1-164-159-11	CERAMIC	0.1MF		50V
C314	1-164-159-11	CERAMIC	0.1MF		50V
C315	1-164-159-11	CERAMIC	0.1MF		50V
C316	1-162-205-31	CERAMIC	18PF	5%	50V
C317	1-162-205-31	CERAMIC	18PF	5%	50V
C318	1-124-997-11	ELECT	470MF	20%	10V
C319	1-124-997-11	ELECT	470MF	20%	10V
C320	1-130-481-00	MYLAR	0.0068MF	5%	50V
C321	1-130-481-00	MYLAR	0.0068MF	5%	50V
C322	1-130-471-00	MYLAR	0.001MF	5%	50V
C323	1-130-471-00	MYLAR	0.001MF	5%	50V
C324	1-123-332-00	ELECT	47MF	20%	25V
C325	1-123-332-00	ELECT	47MF	20%	25V
C326	1-162-291-31	CERAMIC	560PF	10%	50V
C327	1-162-291-31	CERAMIC	560PF	10%	50V
C328	1-124-893-11	ELECT	2200MF	20%	6.3V
C330	1-162-286-31	CERAMIC	220PF	10%	50V
C331	1-162-286-31	CERAMIC	220PF	10%	50V
C332	1-164-159-11	CERAMIC	0.1MF		50V
C333	1-164-159-11	CERAMIC	0.1MF		50V
C401	1-164-159-11	CERAMIC	0.1MF		50V
C402	1-164-159-11	CERAMIC	0.1MF		50V
C503	1-162-291-31	(M49/M69)...CERAMIC	560PF	10%	50V
C504	1-162-291-31	(M49/M69)...CERAMIC	560PF	10%	50V

Ref.No.	Part No.	Description
CN101	1-568-796-11	SOCKET, CONNECTOR 22P
CN102	1-568-795-11	SOCKET, CONNECTOR 12P
CN103	*1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P
CN301	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P
CNP201	*1-564-321-00	PIN, CONNECTOR 2P
CNP301	*1-568-933-11	SOCKET, CONNECTOR 30P
CNP302	*1-568-822-11	SOCKET, CONNECTOR 22P
CNP303	*1-564-337-61	PIN, CONNECTOR 3P
CNP401	1-535-825-11	JUMPER, FILM (WITH TERMINAL)
D101	8-719-105-72	DIODE RD4.7M-B1
D201	8-719-200-82	DIODE 11ES2
D202	8-719-200-82	DIODE 11ES2
D203	8-719-200-82	DIODE 11ES2
D204	8-719-200-82	DIODE 11ES2
D205	8-719-200-82	DIODE 11ES2
D208	8-719-110-08	DIODE RD8.2ES-B2
D209	8-719-120-90	DIODE RD6.8ES-L3
D301	8-719-123-54	DIODE RD6.2ES-B2
D302	8-719-107-94	DIODE 1SS202-1
D401	8-719-933-57	DIODE HZS9B2L
D402	8-719-107-94	DIODE 1SS202-1
D403	8-719-107-94	DIODE 1SS202-1
D404	8-719-107-94	DIODE 1SS202-1
D405	8-719-107-94	DIODE 1SS202-1
D406	8-719-107-94	DIODE 1SS202-1
D407	8-719-107-94	DIODE 1SS202-1
D408	8-719-107-94	DIODE 1SS202-1
D409	8-719-107-94	DIODE 1SS202-1
D410	8-719-107-94	DIODE 1SS202-1
FLD401	1-519-556-11	INDICATOR TUBE, FLUORESCENT
IC101	8-752-037-33	IC CXA1372Q
IC102	8-759-821-94	IC LA6532M
IC103	8-759-633-65	IC M54641L
IC201	8-759-630-21	IC M5290P-16
IC202	8-759-633-42	IC M5293L
IC301	8-752-333-31	IC CXD2500Q
IC302	8-752-334-06	IC CXD2551P
IC303	8-759-917-18	IC SN74HCU04N
IC304	8-759-998-22	IC PCM56P
IC305	8-759-998-22	IC PCM56P
IC306	8-759-631-39	IC M5204P
IC401	8-759-148-63	IC UPD75212AGF-522-3BE
IC451	8-749-920-83	IC GP1U52XB
J101	1-216-295-00	METAL GLAZE 0 5% 1/10W
J102	1-216-295-00	METAL GLAZE 0 5% 1/10W
J401	1-566-921-11	JACK, PIN 2P (LINE OUT)
J501	1-568-519-21	(M69/M49)...JACK, LARGE TYPE (HEADPHONES)
M101	⚠.X-4917-504-1	ASSY, MOTOR (SLED)
M102	⚠.X-4917-523-3	ASSY, MOTOR (SPINDLE)
M191	A-4604-363-A	MOTOR (L) ASSY (LOADING)
PS201	⚠.1-532-685-00	LINK, IC
PS202	⚠.1-532-637-00	LINK, IC
Q101	8-729-901-01	TRANSISTOR DTC144EK
Q201	8-729-111-67	TRANSISTOR 2SB1094-L
Q202	8-729-140-96	TRANSISTOR 2SD774-34
Q203	8-729-111-67	TRANSISTOR 2SB1094-L
Q204	8-729-230-45	TRANSISTOR 2SC2458-YGR
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE
R101	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R102	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R103	1-216-091-00	METAL GLAZE 56K 5% 1/10W
R104	1-216-099-00	METAL GLAZE 120K 5% 1/10W
R105	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R106	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R107	1-216-114-00	METAL GLAZE 510K 5% 1/10W
R108	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R109	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R110	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R111	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R112	1-216-083-00	METAL GLAZE 27K 5% 1/10W
R113	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W
R114	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R152	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R153	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R154	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R155	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R156	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R157	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R158	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R159	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R160	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R171	1-216-001-00	METAL GLAZE 10 5% 1/10W
R172	1-216-001-00	METAL GLAZE 10 5% 1/10W
R173	1-216-001-00	METAL GLAZE 10 5% 1/10W
R174	1-216-001-00	METAL GLAZE 10 5% 1/10W
R201	1-249-425-11	CARBON 4.7K 5% 1/4W
R202	1-249-425-11	CARBON 4.7K 5% 1/4W
R203	1-249-438-11	CARBON 56K 5% 1/4W
R204	1-249-429-11	CARBON 10K 5% 1/4W
R205	1-249-435-11	CARBON 33K 5% 1/4W
R208	1-249-423-11	CARBON 3.3K 5% 1/4W
R209	1-249-417-11	CARBON 1K 5% 1/4W
R210	1-249-417-11	CARBON 1K 5% 1/4W
R302	1-249-417-11	CARBON 1K 5% 1/4W
R303	1-249-417-11	CARBON 1K 5% 1/4W
R304	1-249-417-11	CARBON 1K 5% 1/4W
R305	1-249-417-11	CARBON 1K 5% 1/4W
R308	1-249-423-11	CARBON 3.3K 5% 1/4W
R309	1-249-423-11	CARBON 3.3K 5% 1/4W
R310	1-249-429-11	CARBON 10K 5% 1/4W
R311	1-249-429-11	CARBON 10K 5% 1/4W
R312	1-249-441-11	CARBON 100K 5% 1/4W
R313	1-249-417-11	CARBON 1K 5% 1/4W
R314	1-249-417-11	CARBON 1K 5% 1/4W
R315	1-249-420-11	CARBON 1.8K 5% 1/4W
R316	1-249-418-11	CARBON 1.2K 5% 1/4W
R317	1-249-417-11	CARBON 1K 5% 1/4W
R318	1-249-417-11	CARBON 1K 5% 1/4W
R319	1-249-417-11	CARBON 1K 5% 1/4W
R320	1-249-413-11	CARBON 470 5% 1/4W
R326	1-249-411-11	CARBON 330 5% 1/4W
R327	1-249-417-11	CARBON 1K 5% 1/4W
R328	1-249-417-11	CARBON 1K 5% 1/4W
R329	1-249-417-11	CARBON 1K 5% 1/4W
R330	1-249-417-11	CARBON 1K 5% 1/4W
R331	1-249-427-11	CARBON 6.8K 5% 1/4W
R332	1-249-427-11	CARBON 6.8K 5% 1/4W
R337	1-249-417-11	CARBON 1K 5% 1/4W
R338	1-249-417-11	CARBON 1K 5% 1/4W
R339	1-249-413-11	CARBON 470 5% 1/4W
R341	1-249-441-11	CARBON 100K 5% 1/4W
R401	1-249-439-11	CARBON 68K 5% 1/4W
R402	1-249-435-11	CARBON 33K 5% 1/4W
R403	1-249-435-11	CARBON 33K 5% 1/4W
R404	1-249-435-11	CARBON 33K 5% 1/4W
R405	1-249-441-11	CARBON 100K 5% 1/4W
R406	1-249-425-11	CARBON 4.7K 5% 1/4W
R407	1-249-425-11	CARBON 4.7K 5% 1/4W
RV101	1-238-016-11	RES, ADJ, CARBON 10K (TRACKING GAIN)
RV102	1-238-016-11	RES, ADJ, CARBON 10K (FOCUS GAIN)
RV501	1-238-884-11	(M69/M49)...RES, VAR, CARBON 1K/1K (HEADPHONES LEVEL)
S001	⚠.1-571-722-11	(E)...SWITCH, VOLTAGE SELECTION
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)
S191	1-572-086-11	SWITCH, LEAF (LOAD OUT)
S192	1-572-086-11	SWITCH, LEAF (LOAD IN)
S401	1-554-596-21	SWITCH, KEY BOARD (1)
S402	1-554-596-21	SWITCH, KEY BOARD (6)
S403	1-554-596-21	SWITCH, KEY BOARD (11)
S404	1-554-596-21	SWITCH, KEY BOARD (OPEN/CLOSE ⏏)
S405	1-554-596-21	SWITCH, KEY BOARD (2)
S406	1-554-596-21	SWITCH, KEY BOARD (7)
S407	1-554-596-21	SWITCH, KEY BOARD (12)
S408	1-554-596-21	SWITCH, KEY BOARD (▶)
S409	1-554-596-21	SWITCH, KEY BOARD (3)
S410	1-554-596-21	SWITCH, KEY BOARD (8)
S411	1-554-596-21	SWITCH, KEY BOARD (CHECK)
S412	1-554-303-21	SWITCH, KEY BOARD (❚❚)
S413	1-554-596-21	SWITCH, KEY BOARD (4)
S414	1-554-596-21	SWITCH, KEY BOARD (9)
S415	1-554-596-21	SWITCH, KEY BOARD (CLEAR)
S416	1-554-596-21	SWITCH, KEY BOARD (■)
S417	1-554-596-21	SWITCH, KEY BOARD (5)
S418	1-554-303-21	SWITCH, KEY BOARD (10)
S419	1-554-596-21	SWITCH, KEY BOARD (>12)
S420	1-554-596-21	SWITCH, KEY BOARD (TIME)
S421	1-554-596-21	SWITCH, KEY BOARD (EDIT/TIME FADE)
S422	1-554-596-21	SWITCH, KEY BOARD (TIME SET)
S423	1-554-303-21	SWITCH, KEY BOARD (CONTINUE)
S424	1-554-596-21	SWITCH, KEY BOARD (A SPACE)
S427	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)
S428	1-554-596-21	SWITCH, KEY BOARD (REPEAT)
S431	1-554-596-21	SWITCH, KEY BOARD (PROGRAM)
S432	1-554-596-21	SWITCH, KEY BOARD (FADER)
S433	1-554-303-21	SWITCH, KEY BOARD (⏮/◀◀)
S434	1-554-596-21	SWITCH, KEY BOARD (⏭/▶▶)
S435	1-554-596-21	(E,AUS)...SWITCH, KEY BOARD (PEAK SEARCH)
S451	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)
T701	⚠.1-449-922-11	(AEP,AUS)...TRANSFORMER, POWER
T701	⚠.1-449-923-11	(E).........TRANSFORMER, POWER
X301	1-567-926-11	VIBRATOR, CRYSTAL (16.9MHz)
X401	1-567-819-11	VIBRATOR, CERAMIC (4MHz)

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

ACCESSORY & PACKING MATERIAL

1-465-281-11	(M69)...REMOTE COMMANDER
1-559-533-11	CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-750-792-11	(M49:E,AUS/M69:E)...MANUAL, INSTRUCTION
3-750-792-41	(M49:AEP/M69).......MANUAL, INSTRUCTION
3-750-792-51	(M49:AEP/M69).......MANUAL, INSTRUCTION
*3-795-629-11	(AEP)...INSTRUCTION
*4-922-998-01	CUSHION
*4-927-392-41	(M69)...INDIVIDUAL CARTON
*4-927-392-51	(M49)...INDIVIDUAL CARTON
*4-927-392-61	(M48)...INDIVIDUAL CARTON

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MC-Service

9-955-776-11

Sony Corporation
Audio Group

English
90C0670-1
Printed in Japan
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Published by Customer Relations and Service Group

SS-D702AV

SERVICE MANUAL

E Model

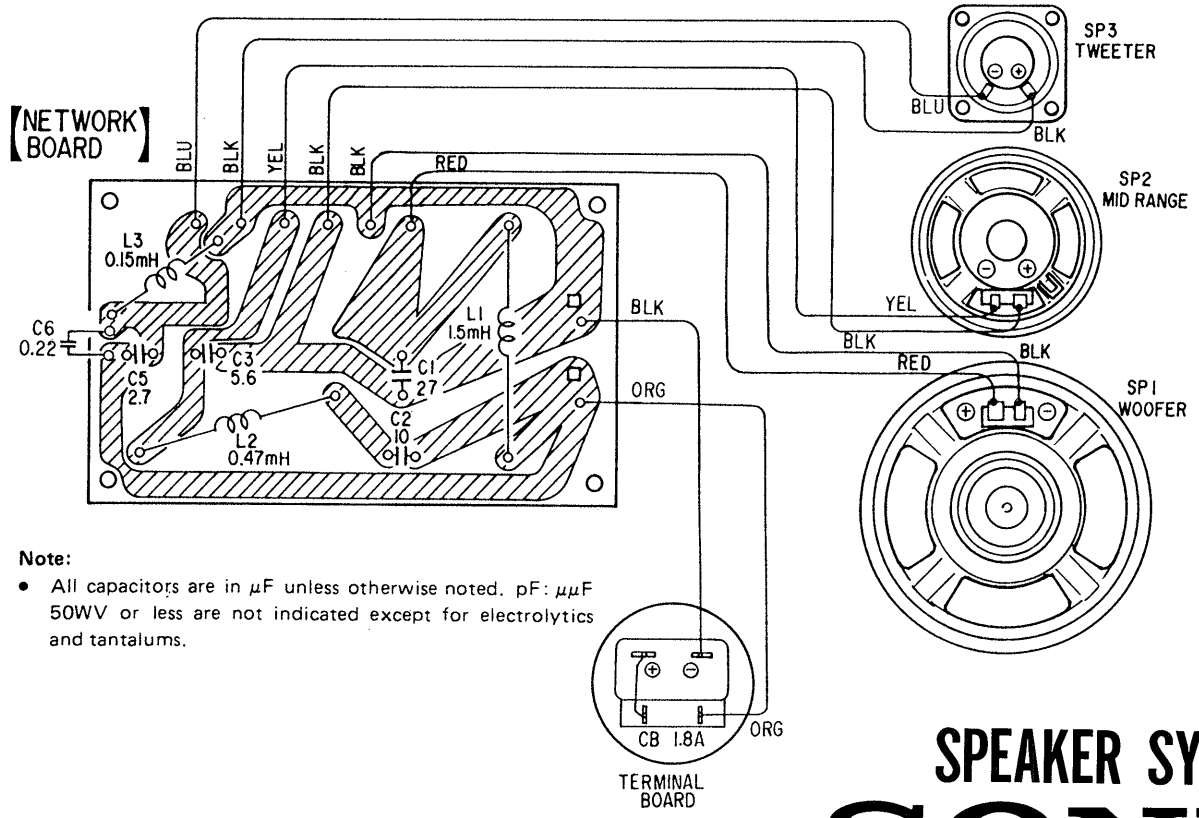
SPECIFICATIONS

Speaker system	3-way
Speaker units	Woofer : 27cm cone type Mid-range: 10cm cone type Tweeter : 5cm cone type
Enclosure type	Bass reflex
Maximum input power	140 W
Sensitivity	90dB/W/m
Frequency range	35-20,000 Hz
Nominal impedance	6 ohms
Dimensions	Approx.320x572x265mm (w/h/d)
Weight	Approx.9.5kg per speaker

Design and specifications subject to change without notice.

This set is the speaker system in LBT-V702.

1. WIRING DIAGRAM


NETWORK BOARD
BLU
BLK
YEL
BLK
BLK
RED
L3 0.15mH
C6 0.22
C5 2.7
C3 5.6
C1 27
L1 1.5mH
C2 10
L2 0.47mH
BLK
ORG
SP3 TWEETER
BLU
BLK
SP2 MID RANGE
YEL
BLK
RED
BLK
SP1 WOOFER
CB 1.8A
ORG
TERMINAL BOARD

Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.

SPEAKER SYSTEM

SONY®

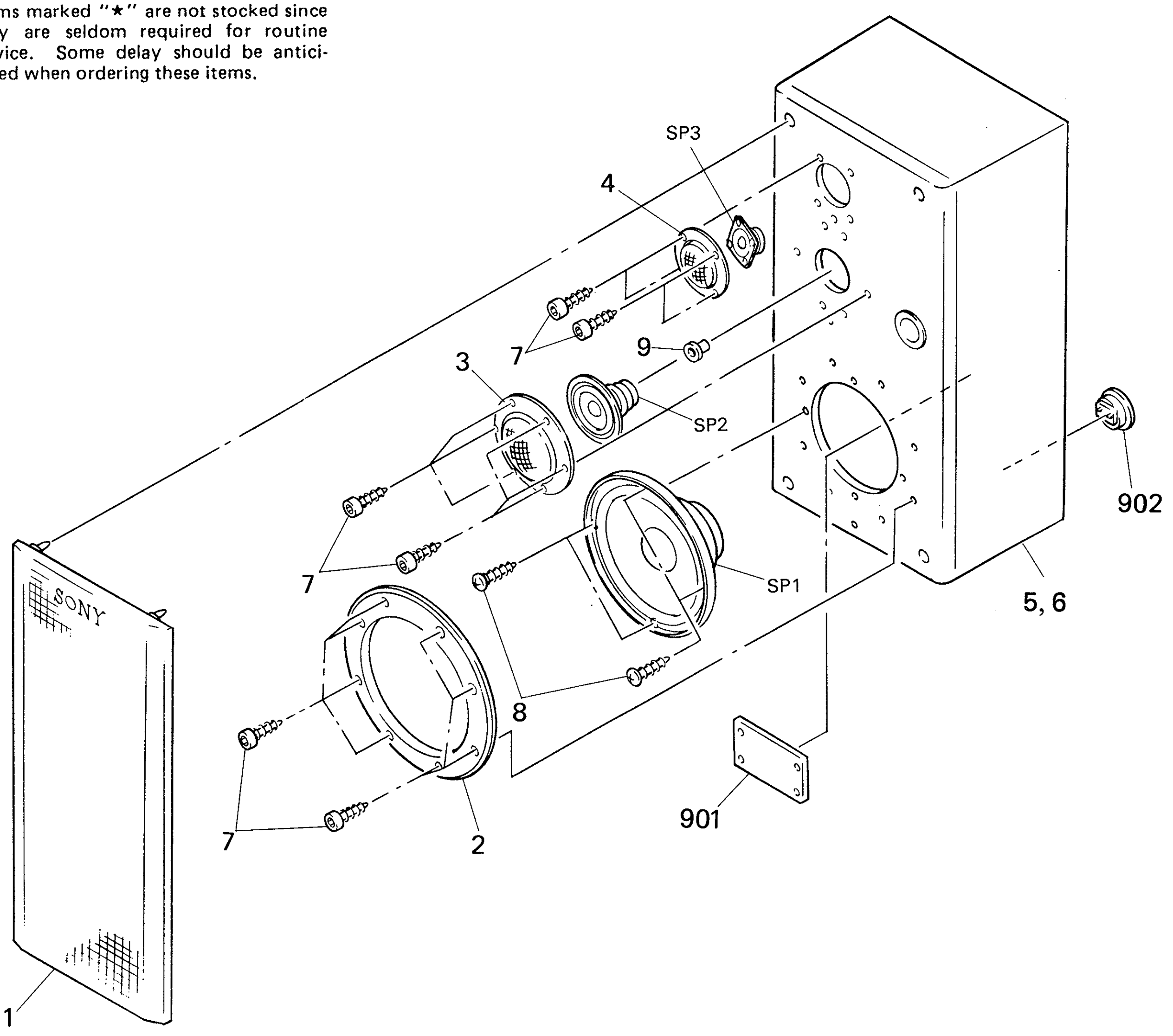
2. EXPLODED VIEW AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

CAPACITORS:
MF: μF, PF: $\mu\mu$F.

COILS
MMH: mH, UH: μH



No.	Part No.	Description	Remarks
1	X-4923-026-1	FRAME ASSY, GRILLE	
2	X-4910-141-1	FRAME (W) ASSY, ORNAMENTAL	
3	X-4910-140-1	FRAME (M) ASSY, ORNAMENTAL	
4	X-4910-139-1	FRAME (T) ASSY, ORNAMENTAL	
5	X-4926-433-2	CABINET (L) ASSY, SPEAKER	
6	X-4926-434-2	CABINET (R) ASSY, SPEAKER	
7	4-934-223-01	SCREW (4X20), TAPPING	
8	4-923-040-01	SCREW (4X16), TAPPING	
9	4-910-041-01	CLAMP	

ACCESSORY & PACKING MATERIAL

Part No.	Description
*4-926-488-01	CUSHION
*4-941-201-01	INDIVIDUAL CARTON

Ref.No.	Part No.	Description
901	*1-633-153-11	PC BOARD, NETWORK
902	1-537-302-21	TERMINAL BOARD (WITH BREAKER)
C1	1-126-411-21	CAP, ELECT (NONPOLAR) 27MF 20% 50V
C2	1-123-551-00	CAP, ELECT (NONPOLAR) 10MF 20% 50V
C3	1-123-548-00	CAP, ELECT (NONPOLAR) 5.6MF 20% 50V
C5	1-123-545-00	CAP, ELECT (NONPOLAR) 2.7MF 20% 50V
C6	1-130-499-00	CAP, PE TEREPHTHALATE 0.22MF 5% 50V
L1	*1-459-352-00	COIL, NETWORK 1.5MMH
L2	1-459-172-00	COIL, NETWORK (CHLS TYPE) 0.47MMH
L3	*1-459-951-11	COIL, NETWORK 0.15MMH
SP1	1-544-207-11	SPEAKER
SP2	1-544-208-11	SPEAKER
SP3	1-544-335-11	SPEAKER

English
90F0413-1
Printed in Japan
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Sony Corporation
Audio Group

Published by Customer Relations and Service Group

SS-A702

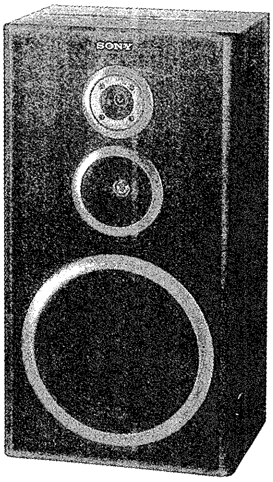
SERVICE MANUAL

AEP Model
UK Model

SPECIFICATIONS

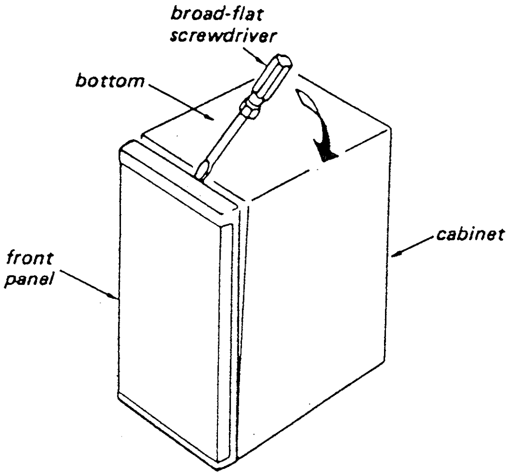
Speaker system	3-way speaker system
Speaker units	Woofer: 20 cm, cone type Midrange: 6 cm, cone type Tweeter: 1.6 cm, dome type
Enclosure type	Acoustic suspension
Nominal impedance	6 ohms
Power handling capacity	Music 140 W
Sensitivity	88 dB (1 W, 1 m), 6.3 W (96 dB, 1 m)
Frequency range	40 Hz to 20,000 Hz
Dimensions	Approx. 280 x 525 x 218 mm (w/h/d)
Weight	Approx. 6.7 kg per speaker, net Approx. 15.8 kg in shipping carton

Design and specifications subject to change without notice.



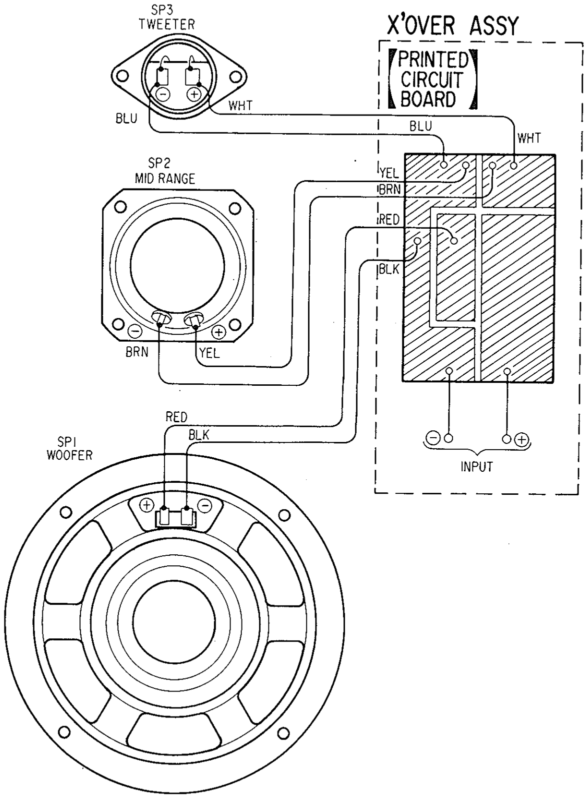
This set is the speaker system in LBT-V702.

1. FRONT PANEL REMOVAL


broad-flat screwdriver
bottom
cabinet
front panel

Note: Be careful not to scratch the cabinet.

2. WIRING DIAGRAM


SP3 TWEETER
X'OVER ASSY
PRINTED CIRCUIT BOARD
BLU
WHT
BLU
WHT
SP2 MID RANGE
YEL
BRN
RED
BLK
BRN
YEL
RED
BLK
SP1 WOOFER
INPUT

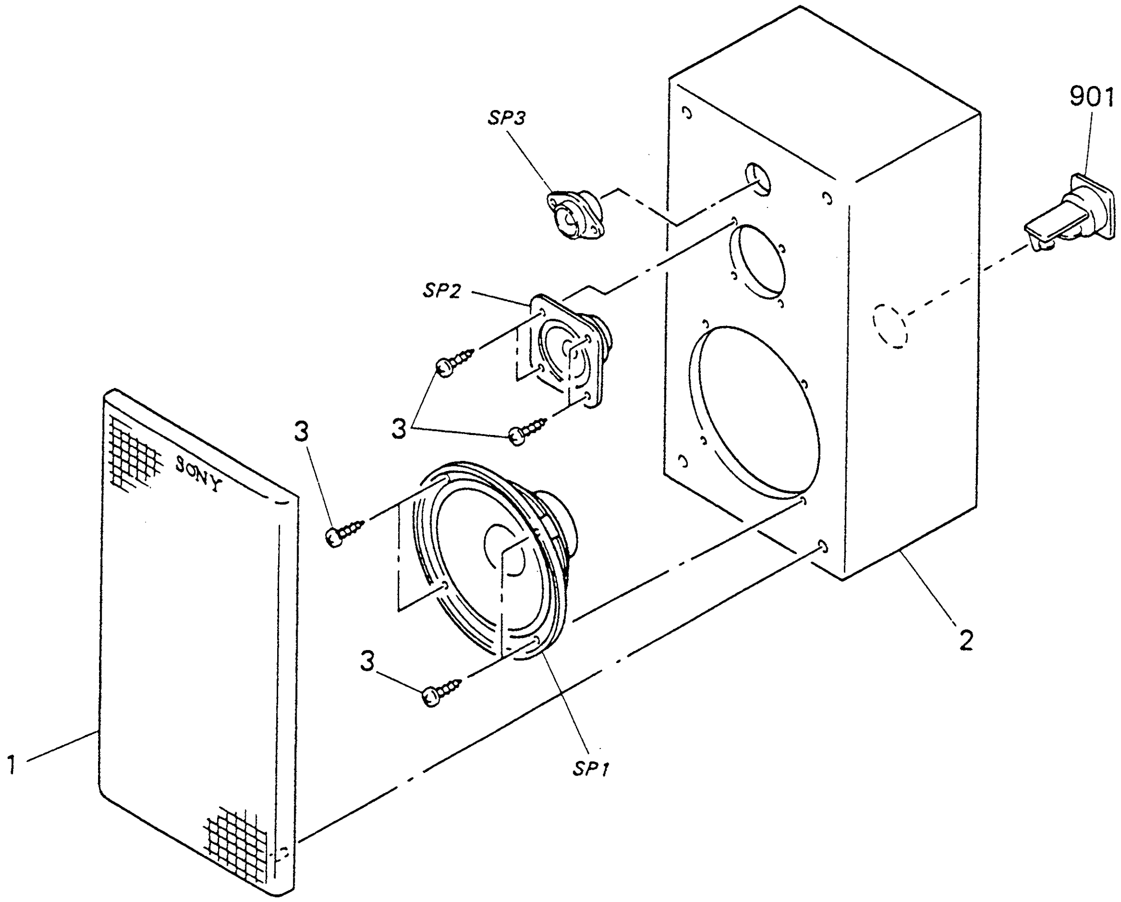
SPEAKER SYSTEM

SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.



No.	Part No.	Description
1	T-8150-367-A	PANEL ASSY, FRONT
2	T-8151-245-1	SPEAKER BOX
3	T-8150-573-1	TAPPING SCREW +P4.2X16

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	T-8150-378-A	X'OVER ASSY
SP1	T-8110-442-1	WOOFER
SP2	1-544-046-11	MID-RANGE
SP3	1-544-135-21	TWEETER

ACCESSORY & PACKING MATERIAL

Part No.	Description
T-8151-244-1	MANUAL, INSTRUCTION
T-8110-457-1	CORD, SPEAKER

English
90F0452-1
Printed in Japan
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